The Journal of the American Medical Association

VOL. XXXIII CHICAGO, ILLINOIS, SEPTEMBER 9, 1899. No. 11.

Original Articles.

A FALLACY OF THE REST-CURE TREATMENT*

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PHILADELPHIA.

Even in this day of enlightenment as regards etiology and pathology, there are thousands, very many thousands, of patients being systematically treated for functional diseases of the body that are due to diseases of the eyes. There are other thousands being treated for organic diseases of the body which originally were caused by ocular diseases. In both cases neither the patient nor the doctor has the remotest suspicion of the ocular origins of the functional and organic abnormalities. Sneering and top-lofty contempt of the specialist "hobby-rider" will not change the facts, nor lessen the hobby-riding. Moreover, the assertion that the patient has been in the hands of an ophthalmologist of good reputation does not in the least lessen the truth for which I contend.

Out of perhaps a hundred classes I wish to-day to choose one small class of cases illustrative of the general thesis. This group is composed of "nervous" hysterical patients, usually women, neurasthenics, who, when we do not know what is the matter with them, and when we can relieve them by no other means, we call "nervous breakdowns," and order the rest-cure. Modern medical practice is made up in too large degree of this sort of work in the dark—I mean with patients whose diseases we may name but can not thoroughly diagnose, and the treatment of which we order with a sickening feeling in our own hearts that we are blind and ignorant of any clear reason for our doing. In no class of cases is there such great reason to look after the eyes as in this class of hysterics and neurasthenics, which, by a morbid philology we allow to be called "nervous." I am told that Dr. Spivak of Denver has advanced the theory that hyperchlorhydria and other functional gastric troubles are the principal affections relieved by the rest-cure. To this I would add that nothing is more certain in my mind than that such functional gastric derangements are frequently the direct result of eye-strain.

Out of a large number of such cases I have seen permit me to epitomize in simple language, I mean without the cacophonous jargon of the oculist, three typical ones:

CASE 1.—Six years ago a woman came to me with a long history of sick-headaches, functional digestional trouble, anemia, and the hundred ill-defined symptoms of nervousness, hysteria, etc., so often conjoined in our pathetic, characterless, useless, childless, muscleless, hothouse flowers of modern womanhood. I found a complex unsymmetric astigmatism—the fruitful mother of such daughters. The woman at once took fright and with horror asked me, "But Doctor, I will not have to wear glasses, will I?" I said, "If you come to me you will not only wear glasses, but spectacles, and you will wear them every hour of your waking life. If not, I can not be your adviser." She would not listen to this. The devil of pride ruled her heart and was stronger than her belief in me, and she at once consulted an oculist who allows his patients to do as they please in regard to treatment. In the years that have flown since then the woman has taken several rest-cures. She thereby gets fat; of course, the doctor is praised and the fame of the mythical metaphysical treatment gains ground. But somehow the nervous breakdowns recur, institutions of various styles of euphuistic titles—one certainly a family inheritance and hence inalienable—are visited for long or short terms, the husband's business and mind grow weedy, and the slow journey down the tragical road, a literal *descensus averni,* continues with increasing speed and certain ending.

CASE 2.—Five years ago a school-girl of 16 years was sent me because of poor vision, headaches, and sundry nervous phenomena. She had an enormous astigmatism and with the best glasses I could give her there was only two-fifths vision in each eye. My spectacles were worn and the vision in a month had regained normal acuity, the headaches entirely disappeared and perfect health was enjoyed for two or more years. Then as the young men gathered about the lovely flower, the glasses were left off, the health ran down, malnutrition, headaches, the Lord knows what not, returned, and, of course, the great nerve-specialist had to be consulted. He never asked or said a word about eyes, but put her to bed for three months, and she got as "fat as butter," and "Great was Diana of the Ephesians." Then after the neurologist's victory she was brought to the poor little oculist again, "just to show him, etc.," and "to get new glasses should they be needed now," and lo, again the vision reduced to one-half or two-thirds of the normal! I hope she has her husband by this time—but I pity him!

CASE 3.—The patient was a young man—and when you find a young man needing the rest-cure, I would advise looking into the matter with all the 'scopes at command, and for a hundred or two years at least! He had for ten years suffered everything that a strong, fine organism could suffer and not die. The reflexes from a pair of eyes with high compound unsymmetric astigmatism had expended themselves on mysterious functional digestional disease. Every kind of dieting, every treatment suggested by the finest physicians had been tried: he was wearing glasses from an ophthalmologist of national reputation; his natural intellectual mind was getting "fuzzy" with ten years of torment, loss of business, failure in ambition, etc. Reading for ten minutes "tied his stomach into a knot," and because he had no loss of visual acuity, and no pain or trouble whatever with the eyes—these are just the cases that wreck lives—

*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

and because he had glasses from a great oculist, even his quick perception had been unable to see that the eyes were the cause of the trouble. For a diabolical refraction-error he was wearing simply and only a pair of weak prisms in his spectacles. It would have done him more good to have buried a lock of his hair at midnight at the crossing of the country roads, with a black cat held by the tail over the grave. Well, the neurologist put him to bed with forced feeding, stopped his reading, and gave him back his lost forty pounds of flesh. When he got about again, his stomach began tying knots when he read, and the old woes began their old round. The heretofore unused mydriatic, when he came to me, gave instant relief of all symptoms and so long as the ciliary muscle was paralyzed there was no stomach-tie or misery of any kind. A few days' gymnastic exercise of the weak muscles of the eyeballs made disappear the exophoria for which he was wearing prismatic spectacles. Glasses correcting his far-sightedness and his unsymmetric astigmatism were ordered, switching of the axes watched, and the almost-ruined neural and digestional functions will, it is hoped, right themselves in time. Perhaps, however, cure will not be effected, because it is a simple truism that in disease, stopping the cause does not always stop the effect. Secondary diseases may have been induced, and such injuries that health can not be perfectly restored. Functional disease leads to organic disease.

I should be sorry to be misunderstood. I by no means say or believe that in every case, or that in the majority of cases requiring the rest-cure, the origin or chief factor of the disease is eye-strain. I do not say or believe that the rest-cure is unnecessary even in cases of reflex ocular neuroses. What I do believe and wish to emphasize is:

1. It is positively criminal negligence to ignore eye-strain in any case requiring the rest-cure treatment.

2. It is not enough to know that the oculist has examined the eyes, especially if it has been done without a mydriatic.

3. To mydriaticize a pair of eyes for a month or two would often do more good, would certainly be more logical, would be an infinitely better means of differential diagnosis in obscure nerve-trouble and functional nutritional diseases than to put the patient's body to bed for the same time.

DISCUSSION.

DR. G. BETTON MASSEY, Philadelphia—I have had some experience with the rest-cure treatment in cases of neurasthenia and I merely wish to take exception to the assumption of the reader of the paper that the "rest cure" is a proper method of treating this affection. The results of my observations have been that the rest-cure treatment is most effective in hysteria, not neurasthenia. After many years' experience with such cases I have never heard of any cure by this means in neurasthenia. In cases of hysteria and anemia, approaching the neurasthenic condition, this treatment may prove thoroughly effective, but it will often do harm in non-hysteric neurasthenia.

CATAPHORIC TREATMENT OF CANCER.*

BY G. BETTON MASSEY, M.D.

PHILADELPHIA.

The insertion of nascent salts of mercury within the human body by electric diffusion in a strength that will deluge a given tract of tissue or a growth with these germicides without materially affecting the remainder of the body constitutes a novel therapeutic procedure which the writer contributed to medical science as a cure for cancer, in a paper before this Section of the ASSOCIATION at its Philadelphia meeting, in 1897. Further experience with this method in primary cancers and local recurrences in accessible situations has demonstrated an even greater usefulness than was anticipated, as the technic has improved and greater currents have been used.

The importance of this method of destroying germs within the body would be sufficiently great if its applicability to the cure of local cancerous foci is alone considered, for cancerous affections are increasing rapidly in frequency throughout the country, but an examination of the method will show that it may be used for the destruction of any accessible focus of germ growth of any kind, there being but one essential condition to its use, and that is a path for drainage of the products of the dead germs, with which, in the worst cases, certain portions of the stroma are separated. It is, therefore, a most convenient, certain and speedy method of destroying tuberculous deposits in any part of the body except the brain, lungs and abdomen. It may be used to destroy the germ of carbuncle, under ether, leaving a painless and aseptic core to be separated in two or three weeks without inconvenience. It may be used to destroy the infection of wounds, when yet local, and all torpid or indolent ulcerations. I will not dwell at great length on these possible applications of the method, further extensions of which will readily occur to you, but will proceed at once to state in what the method consists, and what success has been attained by it in the treatment of cancer since my last report.

Since the method, in its major applications, is a painful one, it is necessary to place the patient under an anesthetic, and this gives full opportunity for the immediate destruction of all the germs in a cancer, no matter how large it may be. With the patient thoroughly anesthetized, therefore, and lying on a large pad connected with the negative pole of a battery of sufficient power, a small tubular gold electrode that has been amalgamated with mercury is inserted into the growth through a small opening, and an excess of metallic mercury is injected into it through a rubber tube and glass syringe connected with the instrument. This gold-mercury electrode is connected with the positive pole of the battery, this being the pole from which these substances may be radiated. When, now, a strong current is gradually turned on through this circuit electrolysis of the growth and of the mercury occur simultaneously, resulting in the formation of an oxychlorid of mercury, which is radiated from the electrode in all directions toward the opposite pole. The effect of the diffused chemicals is evident to the sight in a few moments when a powerful current is used, a whitish-gray color spreading in all directions from the electrode. The exact speed at which the atoms of mercury travel has not yet been experimentally determined, but it is dependent on the voltage of the current. At a pressure of 110 volts it is probably nearly a centimeter in ten minutes. The density of the diffused chemical is, of course, greatest at the point of diffusion, at the electrode; this results in the area nearest the electrode receiving the diffused chemical in such proportion as to necrose all protoplasm in this situation, producing an area of total destruction, the limits of which are shown not only by the discoloration but by the subsequent formation of a line of demarcation. Beyond this line of demarcation the diffused chemical infiltrates the tissues in a decreasing density, producing a zone of infiltration within which outlying germs and colonies of cancer are destroyed

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while a mere physiologic reaction occurs in the healthy tissues.

The essence of the method, therefore, is the production of an *area of total necrosis* coterminous with the apparent limits of the cancer, beyond which a *zone of infiltration* causes the death of outlying colonies and latent germs, thus insuring against local recurrence. All this is accomplished in a time varying from fifteen minutes to an hour and a quarter, in accordance with the size of the growth. The aseptic and odorless slough occupying the area of necrosis separates painlessly in from twelve days to three weeks, leaving a cavity that rapidly fills with healthy granulations.

The method is mainly applicable to primary cancerous foci, though certain infected glands may also be destroyed at the same time as the primary growth, and also early recurrent carcinomas and sarcomas may be placed under the method. When the infection gains access to the blood-vessels or to inaccessible portions of the lymphatic system this method is useless. In the larger growths it has been found wise to conjoin the cauterant action of the oxychlorid of zinc from amalgamated zinc electrodes with the pure mercuric cataphoresis for the quicker production of the area of necrosis.

SUMMARY OF CASES.

Since the paper previously read before this body[1] twenty-six cases of carcinoma and sarcoma have been subjected to this method in some manner, in my hands, many of them extremely bad cases—mere forlorn hopes. Of these 10 were operable cases and results are as follows:

Operable cases—Cured, 8; probably cured, 1; failed to cure, 1.—Total, 10.

Inoperable cases—Cured, 2; probably cured, 1; failed to cure, 13.—Total, 16.

Recapitulation—Cured or probably cured, 12 cases; failed to cure, 14 cases.

The fact that two cases have been cured and one probably cured out of sixteen inoperable cases of cancer is a sufficient excuse for the effort to determine the usefulness of this method in advanced cases of malignant disease, but in spite of this modicum of success it is my wish to avoid further efforts in this line, though it may be said that nearly all these unfortunate patients were benefited temporarily by the palliative action of the applications.

It is far different when we consider the result in the operable cases. Among these but one failure occurred, due to neglect on the part of the patient to submit to a second application—a recurrence in an accessible group of glands of the region where the primary growth had been destroyed. All other operable cases—nine in all since the former report—are well to-day and bid fair to remain well. Many of these patients, moreover, retain the organ affected, such as the breast, etc., with unaltered functions, since it is possible by this method to destroy an incipient cancer in an organ without destruction or removal of its unaffected portions.

DETAILS OF SUCCESSFUL CASES—SECOND SERIES.

CASE 1.—W. O., aged 39 years, an employe of a sugar refinery in Philadelphia, consulted me Oct. 11, 1897, with a rapidly growing neoplasm of the upper jaw projecting into the mouth. It had been first noticed by a dentist six months before, on the occasion of some teeth dropping out. It had displaced, by thus loosening them, four healthy teeth in this situation, and the part projecting into the mouth was about two inches by one inch in diameter. There were evidences, however, of much greater penetration into the upper maxilla, for the cheek on this side showed a decided projection, and what was even more significant, the hard palate was flattened downward on the right side. The clinical evidences thus pointed to sarcoma of the superior maxilla, and this diagnosis had been confirmed by the chief surgeons at the Hospital of the Jefferson Medical College and at the Medico-Chirurgical Hospital, where extirpation of the superior maxilla had been advised.

On Oct. 27, 1897, he was placed under ether, and the pure mercuric cataphoresis with 300 milliampères was applied by means of a gold electrode, for fifteen minutes, with the assistance of Dr. Lindsay and in the presence of Dr. E. P. Berrardy. It was found that the gold instrument was too short to be used conveniently within the mouth, and the application was discontinued before we were certain that a complete effect had been obtained. The next day it was seen that some of the diseased tissue remained, but that the greater portion was well included in the area of necrosis. When the devitalized portion had separated, two weeks later, it was determined to see what could be done by office applications of sharp zinc-mercury points, the growth being but moderately sensitive, though painful as a whole. This was accordingly begun with an average strength of 30 milliampères, and fully completed at the end of two months. This left a healthy sinus extending into the antrum.

This patient has been under frequent inspection since and remains well at this date, a year and a half after. The projection of the cheek bone below the malar prominence has disappeared, and even the flattened arch of the hard palate has receded into place.

CASE 2.—Mrs. B., aged 63 years, of Philadelphia, had had the right breast and a diseased gland in the axilla removed for carcinoma ten months before consulting me for several recurrent nodules situated in the line of the lymphatic vessels leading from the scar to the clavicle. There were seven of these lumps the size of hazel nuts.

On Dec. 11, 1897, with the assistance of Drs. Ida E. Richardson and W. C. Thompson, she was placed under ether and pure mercuric cataphoresis employed with 500 milliampères distributed between three small gold electrodes. The duration of the application was but fifteen minutes, at the end of which time all the lumps were soft. The area of necrosis separated promptly and the cavity healed in five weeks. This patient has remained well during the year and a half that has followed the application with the exception of two minute spots of suspicious texture higher up in the line of the infected lymph vessels. Each of these spots has been removed in ten-minute office applications under the local use of cocain, a small zinc-mercury needle being used with about 10 milliampères of current.

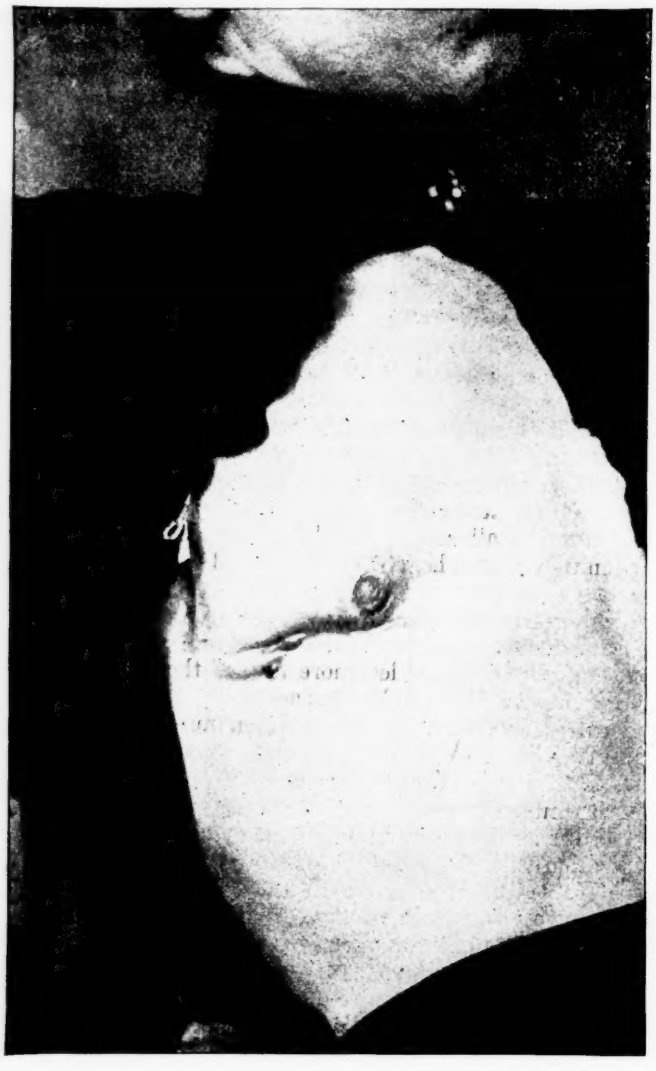
CASE 3.—Mrs. S., aged 56, of West Philadelphia, applied for treatment Dec. 21, 1897, with an indurated and foul ulceration under the left side of the tip of the tongue. A lump had been growing in the situation of the left sublingual gland for six months. Two months before seeing me ulceration began, and it was then so painful as to confine her to liquid diet and leave her sleepless.

On Dec. 28, 1897, she was placed under ether, with the assistance of Dr. S. J. Gittleson, and gold-mercuric cataphoresis was applied with a current of 350 to 400 milliampères for thirty minutes. The ulceration was found to be a cavity in the sublingual gland with indurated edges, about the size of a horse chestnut, emiting probably the foulest odor possible, the surrounding

[1] Medical Record, July 31, 1897.

tissues being deeply indurated. After the current had been flowing fifteen minutes this odor disappeared entirely and did not return subsequently. But little pain remained the next day after the reaction had subsided. Separation and healing were complete in four weeks, except for a small spot in which the disease still existed. She was accordingly given a second application with less current, the healing this time being free from doubt. At the present time, a year and a half after the application, the patient remains well, the mouth being normal except for some cicatricial awkwardness of the lingual movements.

CASE 4.—Miss B. of Philadelphia, aged 51, presented herself Nov. 11, 1898, with a growth in the outer and lower quadrant of the left breast about one by two inches in dimensions. It had appeared only recently and was



Appearance of scar in Case 4 six months after application. The two minor elevations near external corner show where unused mercury came away after healing. They have since disappeared.

beginning to give much pain. On palpation the growth was found to be movable and to present the contour of an acinous carcinoma of the breast. The case had been seen by Dr. Bruce Burns of Frankford, who pronounced it malignant, and advised removal of the breast. On Nov. 16, 1898, she was placed under ether at her home, and a major application of mercuric cataphoresis made, with the assistance of Dr. W. Oakley Hermance. A small gold canula-electrode was inserted into the growth, through which the mercury was injected, and 350 milliampères of current turned on. The current was subsequently raised to 475 milliampères. A grayish necrosis began to form immediately around the electrode, and it was shortly noticed that the malignant hardness began to soften at the periphery of the growth, this softening progressively increasing from without inward. At the end of thirty-five minutes the whole growth had softened. It was now thought best to impregnate the region with the oxychlorid of zinc also, so the current was turned down and the gold instrument replaced by an amalgamated zinc electrode, the current being again turned on for five minutes, making forty minutes in all.

During the following night there was some pain in the zone of infiltration surrounding the necrosed area, readily controlled by morphia, but this pain did not recur again throughout the convalescence. At the end of six weeks the dead portion had come away, leaving a cavity with healthy walls which quickly filled with normal granulations. Several globules of mercury came away during the healing process, showing that an excess had been used. There were no evidences of general absorption of the mercury in a dose capable of detection.

At the present time the breast is soft and movable and entirely free from disease. It shows only a narrow linear scar about one and a half inches long with a depression in the breast at its site. (See cut.) This is the first case in which a carcinoma has been eradicated from the breast—with full preservation of the healthy portion of this organ, under the use of cataphoresis.

CASE 5.—A gentleman aged 79, a resident of Philadelphia, was referred to me by Dr. M. J. Grier, who had removed a wart from the face at the angle of the nose two years before by means of negative electropuncture. The growth had recurred in the same situation, being the size of a small strawberry, and giving evidence of mild malignancy. The problem was to remove or control this growth without detriment to the very feeble health of the aged patient, who could not possibly stand general anesthesia. The effect of very slight currents of but 2.5 milliampères was accordingly tried, applied by means of a sliver of amalgamated zinc inserted into it slightly. Each application of this extremely mild cataphoric method has appeared effective in destroying a bit of the growth, and at the present time only an infected base remains that could easily be cleared away were it possible to make a very slight increase in the current or frequency of application. Meantime the growth is kept under full control.

CASE 6.—A physician of York, Pa., aged 66, had been the subject of rodent cancer of the face for twenty years, during which time the growth had been operated on once at the Hospital of the University of Pennsylvania with but temporary results. On January 16 last he applied for treatment by the cataphoric method. The erosion was at this time about four inches long by two wide, extending from above the eye on the right side of the face to the middle of the cheek. The right eye was being threatened, the orbicular muscles and outer canthus being eroded through, and the outer table of the skull had been eaten away, leaving the skull exposed over a small area.

As the patient dreaded anesthesia, he was treated by the mild method, with prolonged daily applications of small zinc-mercury points and currents varying from two to ten milliampères, the pain being lessened by the local use of cocain. The effect of each application was immediate, both locally and at a distance, and now as a result of about three months' treatment, with intervals of non-treatment, all malignancy has been eradicated

and the site of the growth has filled in with healthy skin by extension from the edges. This case was a beautiful instance of the efficacy of the zone of infiltration, by which a remedial effect was obtained far beyond the mere area of cauterization.

CASE 7.—Mrs. M. S., aged 57, a patient of Dr. A. F. Müller of Germantown, Pa., who kindly referred her to me, was suffering from a carcinoma involving the whole of the left breast. The growth had been discovered about ten months before and was rapidly increasing in size and beginning to give pain. The axillary and supraclavicular glands were healthy.

The condition here was a completely diseased breast that could easily have been removed entire with the knife. The problem was to so remove the diesase as to insure a greater immunity from recurrence than the knife gives. The large bulk of the growth, situated just over the heart, suggested to me that the greater portion of it could be impregnated with the chemicals by a local circuit, which would permit a larger current and greater expedition than would otherwise be possible in this situation. With the kind assistance of Drs. Müller and Hermance, the patient was etherized and a ring of zinc-mercury electrodes was inserted around the periphery of the growth, each electrode pointing toward the center. All were connected to the positive pole of the battery. On the center of the growth was placed a cotton-covered disc, saturated with Fowler's solution, to act as the negative pole. When the current was turned on the mercury and zinc radiated from the peripheral electrodes and arsenic from the central disc, thus attacking the growth from both directions, the two sets of materials rapidly devitalizing the whole substance of the cancer. Eight hundred milliampères were found to be possible in this manner, though above this amount had a temporarily depressant action on the circulation and respiration. After complete softening and necrosis of the growth had been secured the negative cord was shifted to a large pad on which the patient lay, the current being turned off, and 400 milliampères were employed for a time in this monopolar way to produce an efficient zone of infiltration. The total time of application was an hour and a quarter, and the subsequent history of the patient was the same as that of Case 4. The whole tumor, consisting of the entire breast and underlying fatty tissue, came away on the twenty-second day, having been odorless and painless throughout. The cavity left on separation measured 7 by 4 inches, which has greatly lessened in area in the healing process.

I will not occupy further space with the details of the remaining cases, in one of which, a carcinoma of the breast, a diseased gland in the axilla was destroyed at the time of the application to the breast, for sufficient time has not yet elapsed to insure accuracy of results.

CONCLUSIONS.

1. The massive diffusion of nascent mercuric salts within a growth or cavity of the body by an electric current constitutes a novel therapeutic procedure of great value in the destruction of foci of malignant or non-malignant germ growths, when said growths are so situated as to permit of penetration and drainage.

2. This cataphoric destruction of the germs of a primary cancerous growth in situ, including outlying colonies and so-called roots of prolongation permits the preservation of the unaffected portions of the organ in which it is situated, and offers greater security against a recurrence of the growth than efforts to remove the living malignant organisms by cutting operations.

3. While the cataphoric method may be employed as a palliative in non-operable malignant growths, and may at times cure them, its chief value is in the total destruction of the malignant germs in the early stages of primary growths, and in the same stages of purely local recurrences.

TREATMENT OF ANEURYSMS BY EXTIRPATION: WITH REPORT OF CASE OF POPLITEAL ANEURYSM TREATED BY THIS METHOD.*

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CINCINNATI, OHIO.

The following report of a case of traumatic aneurysm of the popliteal artery occurring in a syphilitic subject can be used as the text for a few remarks on the general subject of aneurysms, but more particularly on those which develop in the popliteal space.

John Taylor, a strong, well-developed negro, 29 years of age, had enjoyed good health until six years ago, at which time he contracted syphilis. Primary and secondary manifestations left no doubt as to the nature of his malady. He was admitted to my service in the Cincinnati Hospital, Feb. 24, 1899. Four weeks previously he had slipped and in falling had struck his ankle and the outer surface of the left knee against the curbstone. He is not certain as to whether a swelling was immediately apparent, but a dull, throbbing pain was present almost from the time of injury. This pain was always worse at night, and was increased by attempts to extend the leg. Sometimes there was a feeling of numbness in the leg. He had been treated for rheumatism.

When admitted to the Hospital his pulse was 80 and his temperature 99.6 degrees. He complained of great pain and walked with much difficulty. The left leg was semiflexed and held rigid because of the pain produced by extension or movement. The typical symptoms of aneurysm were present, but the tumor seemed more superficial than would be expected in true aneurysm. The swelling extended more toward the outer than the inner side of the popliteal space.

Because of the ease with which fluctuation could be elicited, and because of an elevated temperature—ranging between 99 and 101—it was deemed expedient to rule out the possibility of the swelling being dependent on an abscess. A hypodermic needle introduced into the mass withdrew a syringeful of clear blood. The knee of the left side was one and one-half inches greater in circumference than its fellow. Pulsations in the dorsalis pedis artery were not present, nor could we be sure as to their presence in the posterior tibial; sometimes there seemed to be slight pulsations, but they were never so strong as to remove the element of doubt from our observation.

It seemed good policy to thoroughly prepare the patient for operation by the administration of iodid of potassium in large doses. This remedy was not given for the purpose of producing any direct action on the aneurysm, but to, theoretically at least, put the artery in a better condition to retain a ligature. Codeia was given to relieve pain. The leg was immobilized by bandaging it to a posterior splint. This treatment was continued for three weeks.

On March 16 the operation was performed. Two Es-

*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

march straps were used, one above and one below the knee; the upper one being placed sufficiently low to permit of ligation of the superficial femoral at the apex of Scarpa's triangle, should such a procedure become necessary. No particular difficulty was experienced in locating the nerve and vein, nor was there any embarrassment in identifying the sac of the aneurysm. During an attempt to get around the aneurysm from its inner side—the popliteal vein was on the outer side—the sac was ruptured, and a large blood clot was expressed. This accident proved to be of service in two ways: it showed conclusively that we were dealing with a false aneurysm, and by exploring the interior of the sac the points of entrance and exit of the artery were made plain; these served as excellent guides.

The vessel was dissected out and divided between ligatures one inch above the aneurysm. An attempt was now made to completely isolate and remove the sac, but because of its extreme tenuity and fragility the effort was but partially successful. During the attempt to remove the sac *en masse* a lateral tear in the popliteal vein occurred, which was repaired by lateral suture with fine catgut. The artery below the aneurysm was cleared to its point of bifurcation, and ligatures placed just above the bifurcation, at which point the vessel was divided. The original rupture in the vessel had taken place on its posterior surface. The anterior portion of the vessel could be identified as constituting part of the anterior wall of the sac. All of the vessels arising from this part of the vessel were exceedingly soft—ligatures applied with but moderate force would readily cut through the walls of the arteries.

The after-history was perfect except that the patient continued to complain of continual, dull, crampy pain on the dorsum of the foot and on both sides just behind the malleoli. This was at first attributed to ischemia, but when six or seven weeks had passed without relief some other explanation became imperative. Dr. F. W. Langdon was asked to see the case. He discovered marked ankle-clonus of both feet, hyperactive reflexes, weakness of right hand and arm—which the patient first noticed March 10—ptosis of left eyelid—this was an old condition, having been present many years—an area of anesthesia over the first metatarsal bone and plantar surface of the foot—the temperature sense was also absent in this area. Dr. Langdon gave it as his opinion that there was enough to justify a diagnosis of cerebrospinal syphilis, and that the symptoms were probably produced by thrombi.

The patient at the present time has entirely recovered from the operation, but the symptoms on the part of the nervous system persist but are much less pronounced.

Any method of treating an aneurysm must accomplish two objects: it must remedy the diseased condition, and this must be accomplished in such a manner as to inflict a minimum of damage on the tissues. The oldest method, that of Antyllus, which consisted in ligating the artery above and below the aneurysm and then splitting the sac, possessed one great drawback, i. e., it left a suppurating mass in the popliteal space, which took many weeks to close. This suppuration must have done harm by causing useless cicatricial contraction, and it also predisposed to the occurrence of secondary hemorrhage. In the treatment of popliteal aneurysm this method gave way to the Hunterian operation—ligation of the artery at some distance above the aneurysm. Time has proven this method to be inferior to that of Antyllus. Nevertheless, it has been adhered to as the classic operation. Mr. A. A. Bowlby[1] makes the statement that at St. Bartholomew's Hospital the superficial femoral had been ligated twenty-two times in the preceding ten years, for the cure of popliteal aneurysm. Gangrene of the limb took place in four cases—18.2 per cent.—and recurrent pulsation in two—9.1 per cent. These results were not the sequence of injury to the femoral vein. The number of cases here quoted is entirely too small to justify one in drawing general conclusions, but a method giving more than 27 per cent. of failures can not be considered an ideal one. This procedure is open to the objection that it is by no means a certain cure for the diseased condition, and it inflicts more damage on the limb than is necessary or advisable. It would appear therefore that the Hunterian operation should be abandoned providing a better method exists.

It can not be gainsaid that one single method may not be applicable to all varieties of aneurysm, so the present discussion will be limited to a consideration of the treatment of popliteal aneurysm.

The method by extirpation presents some advantages and some disadvantages. A proper appreciation and weighing of these may lead to an accurate opinion of its value and its range of application.

The first advantage of the method by extirpation lies in its attacking the disease directly. There is a double advantage in this—it gives one a very clear idea of the local conditions, and it permits the operator to vary his procedure in order to meet the exigencies of the particular case. The Hunterian operation has the double disadvantage of leaving one in doubt as to the local condition and it permits of no variation. It is simply the classic operation of tying the superficial femoral artery at the apex of Scarpa's triangle.

A second advantage of the method by extirpation is that it interferes with the circulation of the leg much less than does the operation of Hunter. Only that portion of the vessel which is involved is obliterated, and the ligature is much farther from the heart than when the superficial femoral is tied. This permits of the more ready establishment of the collateral circulation and diminishes the risk of gangrene.

A third advantage of the method of extirpation consists in the greater certainty of cure. When one comes to deal with this statement he finds that the figures are small, but the deduction seems to be irresistible. Ransohoff[2] records twenty-eight cases in which aneurysm of the large vessels of the extermities was extirpated. All were cured. Gangrene and secondary hemorrhage did not occur at all. A comparison of these figures with those of Bowlby (quoted above) seems to prove the very decided advantage of extirpation as a curative measure. Aside from the greater probability of cure the mortality following extirpation is less than that of proximal ligation. Delbet places the mortality following extirpation at 11.32 per cent., and that following proximal ligation at 18.95 per cent.

Certain disadvantages, some real and some imaginary, have been urged against extirpation of popliteal aneurysms. In the first place it is said that the operation is a harder one than that of tying the superficial femoral. Even granting this to be true one can scarcely urge the difficulty of its performance as an argument against its adoption. The same line of argument would deprive us of many of the modern operations. If the results are better, mere difficulty of performance can not be held as a valid objection to its use. We all know that ligation of the superficial femoral is a classic operation, but one

[1] British Med. Jour., Nov. 29, 1890, p. 1237.
[2] Annals of Surgery, 1894, p. 83.

may well doubt whether it is in all cases easier of performance than is ligation above and below with extirpation of the sac. Injury to the femoral vein will almost certainly eventuate in gangrene and amputation; while injury to the popliteal vein has frequently been reported—it occurred in the case reported above—without any evil after-effects.

A second objection urged against extirpation is the likelihood of the vessel, in the immediate vicinity of the aneurysm, being the seat of disease. Bowlby has shown that this assumption is unwarranted, and that there is just as much likelihood of the femoral being diseased as of the popliteal. The non-occurrence of secondary or recurrent hemorrhage in a single case is the very best answer to the above assumption.

A third, and real, disadvantage is the greater danger of infection with its attendant consequences. The parts are more disturbed and torn in extirpation than in proximal ligation, still there is no reason why, under proper asepsis, suppuration should be a frequent sequence. The ill effects of suppuration are well illustrated by a case reported by C. E. Harrison[3]. In this case extirpation was practiced after compression had failed; suppuration occurred, followed by gangrene and secondary hemorrhage. Amputation was necessary to save the patient's life. The aneurysm, in this case, followed a penetrating wound of the popliteal space, and this was undoubtedly infected prior to the extirpation. This case may also prove that it is unwise to resort to prolonged compression as a means of treating aneurysm.

A fourth objection to the operation of extirpation is the length of time required for its performance. In the case of a young, vigorous person this feature is not a serious one, but when dealing with the old and decrepit it assumes increased importance. One may safely assert, however, that a person who is too weak to stand the additional time required, is, in all probability, not a proper subject for any such serious surgical operation.

Kubler[4] has collected 40 cases of aneurysm treated by extirpation; 28 of these cases were arterial, and 12 arteriovenous aneurysms. The aneurysms were non-traumatic in 11 cases, and the result of injury in 29 cases; 39 of these cases were completely successful and no mention of either gangrene or secondary hemorrhage is made.

The latest statistics of this method of treatment are those of Dr. W. Kopfstein[5], who records 86 cases of aneurysms, in various localities, which were treated by extirpation—27 were spontaneous and 59 traumatic. He also reports 16 cases of arteriovenous aneurysms similarly treated—2 spontaneous and 14 traumatic. Twenty-nine cases of popliteal aneurysm treated by extirpation gave 27 successes and 2 failures—1 death from gangrene and 1 amputation secondary to extirpation. This is a much better showing than that given by Bowlby for the Hunterian operation—6 failures out of 22 cases.

Kopfstein also records the extirpation of 15 femoral aneurysms with 14 successes and 1 death from secondary hemorrhage on the tenth day. The method was uniformly successful in 4 cases of aneurysm of the anterior and posterior tibial arteries, in 3 of the carotids, in 1 of the subclavian, 3 axillary, 9 brachial, 7 radial, 5 ulnar. In 10 aneurysms located in various vessels, 9 were successful, and 1 of the posterior occipital, gave a fatal result from primary hemorrhage. In 86 cases of aneurysm in various parts of the body there were 82 complete successes. Death occurred in but 2 of the 86 cases—about 2.33 per cent. Failure to cure is recorded in but 4 cases, 4.66 per cent.

These figures are suggestive and indicate that a much more extended trial of this method is advisable. From the facts quoted above, the following conclusions seem to be justified:

1. The operation by extirpation is the most scientific of all methods thus far proposed for the treatment of aneurysms of the extremities.
2. It is by far the safest method.
3. It gives a greater percentage of cures and a less percentage of deaths than any other method.
4. The operation by extirpation should be resorted to without previous attempts at cure by any other method.

[3] Lancet, Jan. 21, 1893, p. 130.
[4] Beiträge zur Klin. Chir., Bd. ix, H. 1.

DISCUSSION.

DR. LEONARD FREEMAN, Denver, Colo.—As regards Dr. Oliver's interesting paper, I agree heartily with it, and if I should have a similar case, I should treat in the same way. Dr. Rickett's paper[1] is a good one, but he has left out of consideration gangrene of the lower extremity due to the injury of the vessels in the popliteal space. This is probably not due so much to the vascular injury or to the absence of collateral vessels, as to the fact that much blood is extravasated beneath the popliteal fascia, stopping the feeble circulation by its pressure. I would suggest that in the operation which Dr. Oliver has given us for extirpation of a popliteal aneurysm, it would be well to pay marked attention to this feature, and provide ample drainage.

DR. J. P. LORD, Omaha, Neb.—I want to detain you a moment to recite a case bearing on the first paper. I was asked by a physician of Omaha to see a patient, in consultation with him, who had just come from the country, and who three months previously had been thrown from a wagon in a runaway. The young man was 20 years of age and had sustained an injury of the knee. He was laid up for about ten days with this injury, and then he was able to get about on crutches. The knee became no better and took on considerable enlargement. He came to Omaha. I saw him on his bed. There was this quadrilateral shape of the knee seen in hydrops articuli, and there was some local heat, from which I inferred that there had been infection. There was some edema of the foot, which indicated to my mind that this extensive accumulation about the knee had simply interfered in a mechanical way to produce this swelling. The parts were very painful because of a slight amount of inflammation, the temperature was only about 101 degrees, and I immediately made a diagnosis offhand, of tubercular knee, incited by the trauma. The parts being very tender, I did not make a careful examination, finding that there was some fluctuation. In view of the fact that I thought an amputation might subsequently be a necessity, I made a lateral incision for the evacuation of this accumulation within the capsule of the knee. Much to my surprise I found a very extensive blood clot. This had extended half way up the thigh, underneath the quadriceps extensor muscle, and finding that it came from below and from the midst of the joint, I began to dig out the wound, when my hand went into cancellous bone structure, which seemed to be very much absorbed and very ragged. I then apprehended that we were dealing with an aneurysm of the popliteal artery, traumatic in character. Having gone this far I decided to clean out the blood clot, which I did. In the midst of this, a very free hemorrhage took place, which necessitated the immediate application of the Esmarch, and on extending the incision I found, for a distance of four or five inches posteriorly, the bone had been completely hollowed out, so that there was simply a small spicula of bone anteriorly that held the shaft together. This was broken in our effort to hold up the limb while the tourniquet was being applied. Here was a desperate situation; consent for amputation had not been secured, but the amputation was done. I found on examination of this specimen that the distal end of the artery was completely occluded by blood clot, and here was this enormous accumulation from this traumatic aneurysm, and it was most incredible to me that this man had suffered from this condition for three months without any more disturbance of circulation in this extremity. It occurs to me also, that, had a diagnosis been early arrived at in this case, this limb might have been saved by the proper treatment, as indicated by the first paper.

[1] See Journal, August 12.

SOME COMPLICATIONS RESULTING FROM RECTAL OPERATIONS.*

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To sacrifice the minimum tissue and preserve the perfect function of an organ is the highest art in an operation for the eradication of disease. This proposition is especially germane to operative measures involving the anorectal region, for the reason that the mutilation of a single anatomic structure may determine disastrous sequences in the health and comfort of the patient. The notion is wide-spread in the profession, and taught by proctologic writers, that bold incisions and dissections of this region entail no permanent loss of function, trusting to the reparative processes of Nature to restore perfect order out of chaos.

Legitimate surgery of the anus and rectum involves the consideration of certain anatomic landmarks that must not be disregarded. Martin writes: "The three typical visible topographic features of the anal rectum are the white line of Hilton, the pecten of Stroud, or anal pilasters and the linea dentata." The integumentary membrane of which these visible landmarks are a part rests on a quantity of loose connective tissue, which permits of a great range of mobility of these features independent of movement of the structures, constituting the palpable landmarks of the fixed rectum. Marked pigmentation of the anal skin is observable in a circumscribed area about the anus; beneath this area of darkened skin lies the surgically unappreciated corrugator cutis ani.

In addition to these delicate structures that have peculiar physiologic functions pertaining to the act of defecation, the gut is poised and controlled by a motor apparatus, exact in its arrangement and composite in action. This muscular automaton consists, as stated above, of the corrugator cutis ani, the rectal sphincter whose aggregate fibers passing between the coccyx and central tendon form an ellipse surrounding the terminal portion of the gut. In the female, these fibers continue to form the sphincter vaginæ by a figure-of-eight. At the central tendon, fibers of the transversus perinei unite with it. The function of the rectal sphincter is accessory to the ental sphincter in controlling the escape of the fecal column, and is for the most part voluntary, while the involuntary terminal circular fibers or ental sphincter regulates, through the cerebrospinal centers, the pasage of rectal contents. The levator ani is a broad muscle forming the basis of the pelvic floor, and serves to lift the relaxed anus over the fecal mass in its descent.

With these perfunctory observations before us, we now pass to a brief consideration of some complications following operations or injuries on the fixed rectum, or that portion limited above by the levators ani, and below by the corrugator cutis ani: 1. Incontinence. 2. Stricture. 3. Elongation of the anal rectum. 4. Ulceration and hemorrhage. 5. Loss of rectal sense organs. 6. Suppuration and phlebitis. Any or all may be the sequelæ to operations for the removal of hemorrhoids, fistulæ, adenoids, fissure or malignant neoplasm, but the writer has in mind the minor operations only.

Incontinence is probably the most common complication arising from the operation for fistulæ; especially is this true if the disease occupies the anterior quadrant, because by the surgeon's severing the fibers of the ectal sphincter, the incised extremities are kept apart by the contracted transversus perinei, and thus prevent union.

In a recent exhaustive paper by Dr. Kelly, on rupture of the perineum, he lays important stress on the function of the ental sphincter, and its repair necessary for complete control of the bowel. These fibers retract permanently when cut or torn, by aid of the transversus perinei—hence to avoid this accident the divided portions should be adapted by suture. Multiple incisions are to be avoided, since the fibers will retract toward their points of insertion and be held up by levators ani, and we are constantly reminded that the muscle is to be cut but once in the lateral quadrants even in multiple fistulæ.

Incontinence is liable to follow divulsion in syphilitic and tubercular patients. In such cases the efforts of the proctologist to relieve his patient will be followed by disgust and ingratitude—indeed, what more unenviable position could a patient be placed in[2]. It ostracises him completely. Incontinence may follow the removal of hemorrhoids explicable on the ground of muscular impairment.

The direct antithesis of incontinence is stricture. This is the result of vicious cicatrices consequent on the unskilful use of the clamp and cautery, and hence is a not uncommon complication following operation for the removal of piles. The danger in the clamp and cautery is the removal of too much tissue, especially the integumentary membrane, which will be followed by contraction. An operation is recommneded for the cure of pruritus ani, which consists in the dissection of the peri-anal skin. Though it may be the lesser of evils, contraction is almost certain to follow, besides complete destruction of the integumentary muscle. It is argued that stricture following operations, readily and permamently yields to secondary divulsion.

Elongation of the anal rectum is a permanent contraction due usually to the removal of internal hemorrhoids without complete divulsion, or vicious cicatrices from incisions for fistulæ. This complication is a corollary to stricture.

Hemorrhage is a temporary danger following cutting operations. This is especially true of the removal of polypi, since they are exceedingly vascular, each being supplied by an artery in the pedicle. In this connection it is pertinent to state that hemorrhage is a complication most to be feared in valvotomies, and requires special instruments for its control.

The "hemorrhoidal inch" will sometimes form the site of single, multiple or continuous ulcers following operations, which become a nidus for bacteria and toxins, producing tenesmus and chronic diarrhea, or rather mucorrhea. These patients will complain of a seeping and a constant sense of moisture. Post-operation ulcers may be avoided by antiseptic measures to encourage healthy granulation.

In lieu of the existence of the special rectal sense of Stroud being necessary to the healthy activity of a normal rectum, any operation conceived that will destroy this organ is to be deplored and condemned as unsurgical and unscientific, especially in the removal of piles. For this reason, we mention Whitehead's operation only to reject it. The papillæ, in which resides the end bulb, form the basis of the pile, and care should be taken to remove such portions of the hypertrophy as will leave the end organ intact. Destruction of the rectal sense organ leads to delayed defecation and constipation with the usual train of sequelæ.

*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Associaton, held at Columbus, Ohio, June 6-9, 1899.

Wounds not healing by first intention invite infection, which leads to suppuration and phlebitis. The occurrence of ischiorectal cellulitis and abscess is a complication that entails discomfiture incomparably greater than any disease for which a minor operation is required. Healing by first intention should always be encouraged if possible, by the free use of catgut sutures, and the period of convalescence be thereby materially lessened.

The technic of minor operations on the anal rectum, and the strict application of the principles of antisepsis will contribute incalculably toward success, and remove that fear extant among the laity that operative measures are fatal, or are not conducive to permanent cure.

DISCUSSION.

DR. J. R. PENNINGTON, Chicago—While it is true that strictures, ulcerations, incontinence of feces, etc., occasionally follow rectal operations when done by the inexperienced operator, yet we rarely find these sequelæ when the operation has been performed by a skilled proctologist and efficient after-treatment administered. I believe that in many cases the final result depends as much on the after-treatment as the operation itself. After most of my rectal operations, especially those for hemorrhoids, I introduce into the rectum a rubber-covered rectal tampon. I find this a most valuable method, far superior to any gauze dressings. Its removal is painless and it leaves the wound in such a condition that the bowel movements are also painless, a point which seems to us of much importance.

DR. CHARLES MARTIN, Cleveland, Ohio—It seems to me that a more fitting title would be, "Bad Results of Bad Surgery and How to Avoid Them." There has been much mutilation practiced on the rectum. There are one or two points suggested in this paper on which I would like to make comments. There has been during the past few years practiced in this country an operation known as "the American operation," a most un-American procedure—for it is American to permit the greatest individual liberty and privilege and to encourage the accumulation of possession and the retention of those things which we have. I sent, into the central western states three years ago, 7000 circulars, to the profession, inquiring as to the results of the miscalled "American operation," and I have many letters reporting over six hundred cases of most disastrous results from that operation, results worse than the conditions which it was designed the operation should relieve. There is another point referred to in Dr. Beach's paper, having particular reference to the mechanism of the sphincter ani and of the transversus perinei—he refers to the difficulty of getting coaptation of the anterior quadrants of the sphincter when the ends are divided in surgery or torn by accidental means. These sphincter-ends may be sutured and made secure provided an additional operation is performed on the transversus perinei muscles and on the coccyx, which will take all the tension off the sphincter and give it time to unite. If an incision is made through each transversus perinei muscle, and if the tip of the coccyx—last bone—is divided from its fellows, all the muscular structures about the anus are set adrift and almost immediate union of the sphincter follows.

USE OF ACETANILID IN VARIOUS COMBINATIONS AS A SUBSTITUTE FOR MANY PROPRIETARY DRUGS AND MIXTURES.

BY LOUIS FAUGERES BISHOP, A.M., M.D.
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Those of us who are confused by the claims of the ever-appearing antipyretic analgesics should consider one method by which we can obtain definite knowledge of this special class of drugs. It is better to know one drug well than many partly. For a long time I have not prescribed any new drugs of this class, but have substituted acetanilid in such a combination as seemed desirable for the case. In doing this I have also returned somewhat to the custom of prescribing liquid medicines. Acetanilid is not soluble, but it is readily suspended in syrupy mixtures so that one can write for acetanilid combined with ammonia in any of its forms—salicylic acid, nux vomica, digitalis, codein, creosote, bromid of potash, or indeed almost any drug, and obtain a prescription that can be much more readily adapted to the case than is possible where any of the ready-made combinations are used that are sold under so many registered names to such enormous profit to the alleged proprietors of the same. The fact should be known to the profession that the foundation of most of these drugs is practically acetanilid, and any particular virtue that is claimed for them is obtained by the admixture of bicarbonate of soda, caffein, carbonate of ammonia or some other such drug. Now these may or may not enter into chemical combination with the drug. The difference between a mixture and a loose chemical combination of organic products is often so slight that it is not worth considering. Practically in the body these drugs are broken into the acetanilid radicals and the other drugs, and for that reason it is much more professional and scientific to write for the mixture that we wish to use than to be the slaves to a secret medicine fad.

This is as much a pharmaceutic as a therapeutic problem. It is for pharmacy to decide the truth of the familiar claims of the owners of proprietary medicines, that they are in possession of some magic process of combination, or some method of purifying drugs unknown to the pharmacist in general that gives them the right to control and own particular remedies. It would seem that a man who had devoted himself to a profession, such as pharmacy, would be able to discriminate promptly between true and false claims of this kind. The *bete noir* of the proprietary medicine man is the substitution, by the pharmacist, of an equivalent combination for his elaborately advertised and prettily named remedy. Nor in the long run is it judicious for physicians to countenance this habit. However, it is within the legitimate province of the physician to substitute just as much as he pleases in prescribing, and the number of mixtures written for under specific names will be in inverse proportion to his knowledge of their constitution and composition.

There is another great class of remedies that is particularly abused, namely, the preparations of iron. In time the greed of the manufacturer often transfers his remedy from the domain of professional use to that of a nostrum, chiefly employed by the public. It is hard to see how the respect of the profession can be maintained by the forms of advertising that have already been put into use. Perhaps the most generally useful combination of acetanilid when used as an analgesic is the migraine tablet. This is equivalent to at least several of the most widely used secret mixtures that are sold under a specific name. It consists of two grains of acetanilid and one-half grain, each, of caffein citrate and monobromate of camphor. The caffein neutralizes much of the depressing effect of the acetanilid and monobromate of camphor acts favorably on the nervous system. These tablets are convenient for office use and for the pocket case as a general and efficient analgesic. Another useful combination that can be prescribed in capsules is acetanilid and quinin. A grain of acetanilid will neutralize the disagreeable effect of four or five grains of quinin. As a general tonic, when a patient is very uncomfortable from a cold, 1 grain of acetanilid with 2 grains of quinin three times a day, makes a good adjuvant to other treatment. In rheumatic conditions and those in which there is a suspicion of

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

intestinal fermentation, acetanilid and salol can be prescribed in capsules. For the disagreeable disturbances of circulation and neuroses of the menopause, a useful prescription is a mixture that will give 2 grains of acetanilid, 15 grains of bromid of potash to 1 dram of simple elixir. The acetanilid does not dissolve, but is well suspended in the viscid vehicle.

Indeed, a small amount of acetanilid can form an ingredient of any one of a large number of familiar prescriptions, supplying a valuable anodyne and antiphlogistic remedy. For instance, a useful cough mixture can be composed of acetanilid, aromatic spirits of ammonia and syrup of tolu. It combines well with bromid as a hypnotic, and may be prescribed in powdered form to be mixed with water. It is a useful addition to various mixtures for acute indigestion, helping distinctly in the relief of pain; for instance, in these very severe cases of flatulence, causing tremendous distress after meals, relief is obtained by a teaspoonful of the following tincture.

Acetanilid	ʒii
Tinct. nux vom	ʒii
Tinct. capsicum	ʒss
Tinct. gentian. comp	ʒiv

M.

As a substitute for iodoform and a host of other antiseptic dusting powders acetanilid has been found to be very efficacious. It has the endorsement of successful surgeons, and there seems no reason to doubt that acetanilid in powdered form, or mixed with equal parts of boric acid, can easily replace the long list of antiseptic powders used in surgical disorders. There is a danger of toxic absorption, but this is true of all the others, and it is more likely to be understood, recognized and guarded against if one substance is habitually used than if the surgeon is constantly changing from one antiseptic to another.

In making this study of the practical therapeutics of acetanilid, it is not my desire to in any way antagonize those who deal in these preparations corresponding to these various prescriptions. My plea is rather for a better knowledge of these compounds so that the physician, if he does not wish to write his prescription, may use them intelligently. It is for the chemists to tell us what proportion of the new substances that are brought out represent important discoveries in pharmacy, and what proportions are mixtures, or such slight chemical modifications of well-known substances that they serve more to introduce mystery and confusion into therapeutics than to advance knowledge.

What is needed by the profession to-day is a better knowledge of drugs that it is using. It would be well if the new pharmacopeia could be the work of a genius, eliminating the thousands of drugs that have fallen into disuse, and enumerating only those of practical importance, so that in the next generation physicians could concentrate their attention on fewer drugs, and acquire thorough knowledge of these. It is impossible to eliminate patented drugs from use, but there should be some authority which fearlessly would give a true and impartial opinion as to their construction and therapeutic value. One hardly realizes how much the profession really stands in fear of the influence of some of these drug companies. I remember that once, at a state society, I spoke in a disparaging way of the most widely advertised secret acetanilid mixture, and was approached after the meeting with the advice that it would be better not to antagonize a company that gave so much advertising to the medical press. I noticed that my remarks were eliminated from the report in the most prominent medical journals. It should not be the duty of any individual to lay himself open to lawsuit and possible persecution in behalf of the medical profession in exposing the true value and construction of drugs. It would seem that the time had come when there should be some central body which could be entrusted as a court to give a verdict on the true composition and value of drugs. Some foreign countries have laws prohibiting the sale of secret preparations and making it a misdemeanor to sell drugs at a greater price than a reasonable profit.

There will be a stubborn fight on the part of the owners of certain secret remedies for their introduction into the pharmacopeia, and it is almost certain that they will not be admitted. While it must be acknowledged that some patented synthetics must be admitted, still care must be exercised that under the cover of these really new drugs a great many worthless ones are not also introduced.

PROGRESS IN SERUM THERAPY*.

BY GEO. W. COX, M.D.
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The gradual unrolling of the scroll which displays the evolution of serum therapy brings into view one of the most pleasing pictures to be found in the gallery of medical art. It presents to us the image of a system whose present status was attained with a suddenness bordering on abruptness; and whose steady growth gives promise of eventually placing it in line with established sciences. My definition or conception of serum therapy must not be construed to limit the practice to the administration of antitoxins; but to embrace the treatment of disease with all such substances as are the natural outgrowth of applied bacteriology, which in turn is the result of the germ theory. Strictly and technically speaking some of these would necessarily be excluded from consideration under this head, because they are not serums, as that term is popularly understood and applied. However, the principle involved is essentially the same; and inasmuch as it would be impracticable to create a separate department for each substance, I hope the general term serum therapy may, for the present, at least, be accepted in such a broadened sense as to include medication by toxins, antitoxins, all blood-serums and vaccins; and let subdivisions of the subject be determined by future study and development.

An idea may be transformed into a theory instantly, and a theory into an art with moderate precipitation; but the conversion of an art into a science is a process of deliberate growth and can only be accomplished through the media of time, of skill, of patience and of labor.

Serum therapy is an art; and while its position as such is of recent date, it is descended from an idea so ancient that no man can reckon its birth or point its origin. Even the second degree of progression, the stage of theory, is so veiled in the gloom of antiquity that history fails to record the transition. The human race seems to be endowed with one principle which is common to all peoples in all ages, namely, the intuition to worship and to heal. Even among nations that are regarded by us as wholly uncivilized, where letters are unknown and environment the most crude, some sort of deity is recognized and some sort of "medicine man" is found; and concerning these two personalities, the spark of genius has, from age to age, occasionally flashed forth to break the blackness of the general gloom.

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Anxiety for present health and for future life and happiness may constitute the only beam of intelligence discernible in an entire tribe; and no matter how benighted the race or barbarous their habits, on these two points the power of reasoning has never been entirely lost. The idea of deity and the idea of physical cure are coexistent with human life; and while in each instance the idea may have stopped far short of reason, as we are able to discern and exercise it, it has usually been sufficiently progressive to crystallize into some form of theory. So it has long been with the art which we are now able to demonstrate, and the science which we hope to establish. Serum therapy, in principle, if not in name, has been a theory for many centuries, playing hide-and-go-seek with the seekers after truth, but never forgotten, never entirely lost, and constantly suggesting to inquisitive minds the possibilities of ultimate victory in the line of great achievement and of great usefulness. Before the days of Jenner, of Galen, of Celsus or even of Hippocrates, the idea of cure by inoculation had passed to the theoretic stage, and had even been put to practical test by a people whom we have been taught to regard as hereditary heathen. From this most anciently known source, then, inoculation has extended through succeeding centuries, and has at various times been practiced by the Chinese, the Hindoos, the Persians, the Arabians, the Egyptians, the Turks, the Continental Europeans, and finally by the English, who first established it on its present practical footing by the marvelous discovery of Jenner. Crude as their methods must have been; unsatisfactory and disappointing as their results, in the main, surely were; without the advantages of modern education and equipment; with no knowledge of bacteriology, of chemistry, of the microscope, the spectroscope or even of human anatomy and physiology, the ancient physicians were like a mariner in mid-ocean without compass or sextant, without rudder or sail. But even so, they did not sit down to waste and starve in idleness; they did the best they could—they looked at the stars and plied the oars.

Perhaps it is not entirely just to our ancient brethren to assume a position for them that would make their achievements look altogether like the result of accident or of instinct, for occasionally we find traces of practices that could only have been devised under the guidance of a well-balanced reasoning power. For example, in the department of serum therapy, the very latest addition to our galaxy of "new discoveries," in a very ancient Hindoo medical work entitled "Sacteya Grautham," the following remarkable description of smallpox vaccination occurs: "Take the liquid of the pustules of the cow's teat, or from the arm of a human being, between the shoulder and the elbow; place it upon the point of a lancet, and introduce it in the arm at the same place, mixing the fluid with the blood; the fever of variola (Bhadvidee) will be produced. This disease will be mild, like the animal from which it is derived; it need not cause fear, and requires no remedies; the patient may be given the food he desires. The pustule is perfect when it is of good color, filled with a clear liquid and surrounded by a red circle." Nothing short of sound reasoning, close observation and practical experience could invent such a systematic procedure as this; and it would even be difficult to more accurately describe it. Where the Hindoos received their knowledge of inoculation, or how long, or with what success they practiced it, are among the things that erratic history does not record; but notwithstanding their familiarity with the subject, as evidenced by the above terse description, the art was permitted to become entirely lost, leaving nothing but traces of the theory, or even of the primitive idea, for succeeding generations to grasp and build upon. And so tradition and history furnish us with occasional glimpses of the medical mind during a period of two or three thousand years that prove conclusively that much originality, much ingenuity and much practical knowledge have, from time to time, been displayed throughout the centuries that are dead. This does not detract in the least from the halo that decks the brow of modern fame, for the rediscovery of a lost art by means of original research is entitled to all the glory that clusters about archetypal production. The work of Jenner and that of Pasteur are as truly original as any that was done in the long forgotten past, or ever will be done in the years to come; and it is to the genius of these two men that the world is indebted for the saving of more human lives than to that of any other score of men who ever lived. Jenner applied smallpox vaccination empirically, to be sure, for he was without bacteriologic knowledge necessary to account for his magnificent clinical results on a scientific basis; but if he had waited for the acquirement of this knowledge before applying his remedy, several decades would have rolled by and millions of helpless victims would have yielded to the relentless power of variola.

Half a century after Jenner's great triumph, the first promise of a solution of the entire vaccinal problem was given in Pasteur's discovery of the cause of fermentations. From that moment, and from that incident, bacteriology began to take form and to grow into the ever-spreading science whose branches have now extended around the globe to shed blessings on suffering humanity in every land. Pasteur not only pointed the way for others to follow, but by original discoveries and demonstrations, rendered their work of development comparatively easy. Through Pasteur's discoveries it was made possible for us to know just how and why vaccination protects against smallpox and other diseases, and thus the great work of Jenner is rounded out and made into a monument to the genius of both the beginner and the finisher. In like manner it was Pasteur's work that paved the way for the discovery of every disease-germ that has been found since his time or that shall be discovered hereafter.

The discovery and demonstration of the cause of a disease is a long stride in the direction of controlling the disease itself; and inasmuch as the science by which this is accomplished with respect to infectious maladies is founded on such a solid basis, and is in a state of such healthy growth, we have come to regard such discoveries as a matter of course, and but little surprise is expressed at the announcement of the capture of a new offender. Likewise, we are constantly expecting to hear of the discovery of new remedies along the lines of serum therapy, and our patience grows weary because they are not more rapidly forthcoming.

Between the time of the discovery of the bacillus anthracis by Pollender, and that of the vaccin which so completely controls the disease caused by it (anthrax), by Pasteur, there is a period of thirty-two years, notwithstanding the fact that a noted French physician had, in the meantime, experimented with the germ sufficiently to establish an undeniable etiologic relationship between it and the disease. In 1876 Pasteur began the methodic study of anthrax; and while he was the acknowledged leader in the line of work pertaining to micro-organisms and their effects, it was not until 1881 that he was prepared to announce and demonstrate the

discovery of a vaccin that would effectually prevent the disease. This announcement, together with the faith that had been inspired by his former discoveries, seemed to stimulate bacteriologists to greater effort; so that not a year has elapsed since that time in which something new and useful has not been recorded, either within the walls of the great laboratories founded by Pasteur, by some pupil of his or by some one who had profited by his teachings. In all, something like two hundred pathogenic micro-organisms have been discovered, many of which have yielded up their secrets and their power to the superior force of science. Nearly three-fourths of the entire number belong to the class known as bacilli, almost one-fourth to the division called microbes, while a few only are included in the group designated spirilla.

Following closely on Pasteur's discovery of anthrax vaccin came, from a pupil and co-worker of his, the announcement of the discovery and successful application of a vaccin for the prevention of symptomatic anthrax, or blackleg, as it is more familiarly known in this country. Anthrax and blackleg had become so prevalent, and their ravages so great, in many parts of the stock-raising world that financial ruin was not only threatened but actually experienced in many instances. The two vaccins just mentioned have so fully and completely fulfilled the requirements as preventives, that where vaccination is practiced at the proper time, outbreaks of anthrax and of blackleg are now simply matters of history. In no branch of medical science has the power of a remedy ever been so beautifully shown and universally successful as in the control of these two animal scourges; and if serum therapy had stopped short at this stage of its progress, its name on the escutcheon of fame would have been written in letters of living light. But it did not stop here. Forging its way by slow and tortuous steps, it has advanced until to-day we have it in a system which promises absolutely perfect and definite results in its important, if limited, sphere. Hog cholera, which has cost the American farmers multiplied millions of dollars during the present generation, seems just on the verge of losing its terrors through preventive inoculation; veterinary tetanus and purpura hemorrhagica are more amenable to serum treatment than to any other, while the certain detection of tuberculosis and of glanders in their earlier stages is made easy, and their general management greatly simplified, by the application of the principles of serum therapy. Other veterinary diseases, such as pleuropneumonia, rinderpest and a number of others of less importance, have been studied with great interest, and usually with encouraging results, but their further consideration must be left to the future.

Passing now from the veterinary field to a consideration of serum therapy as applied to the human subject, we find that the vastly increased importance of our theme is more than proportionately recognized and acknowledged by the profession. The efficacy of antitoxin in the treatment of diphtheria is no longer a debatable question, for by dint of proofs innumerable and incontestable, the remedy has gained the enthusiastic indorsement of an overwhelming majority of the medical profession. It seems to me to be particularly fortunate for the system of serum therapy that one of the most dreaded of all infectious maladies should have been the first to completely yield to its influence; for it is a reasonable argument that if diphtheria may be thus conquered, many, if not all of the others, must sooner or later fall into the line of subjugation. If the first statements of Roux and Behring had not been borne out by subsequent tests, and their promises had not yielded such immense returns, it is quite likely that incredulity and lack of interest would have largely predominated in the public and professional estimate of the antitoxin theory, and many years might have elapsed before another impetus was given to its slow but persistently onward motion. However, as the tide of fate was favorably turned thus early, investigators all over the world at once took a renewed interest in their work, and subsequent developments have fully justified their efforts. Up to the present time, no other human disease has so completely yielded to the curative power of serotherapy as has diphtheria; but from some of the most recent investigations a number of valid reasons have been discovered and cited for this, and which have in no way discouraged the friends of the system beyond that degree which belongs to unavoidable delay. For example, it has been found that infectious diseases are frequently so complicated by the invasion of other micro-organisms that two or more distinct pathologic conditions coexist in the same subject. The complications may either intensify or mask the original malady; and in a paper I presented to this Section one year ago, I cited a number of cases of tuberculosis which presented all the classic symptoms of far-advanced pulmonary phthisis, but which, after being freed from their complicating factors proved to be mild and easy to control. The most striking of these cases is still under observation; and the tubercular element, while still in evidence, has apparently not advanced in the slightest degree for more than two years, and the patient is attending to business interests that he had wholly relinquished in the fall of 1896. Before the days of serum therapy, cases like this would have been either abandoned as hopeless or sent to some mountain or seaside resort—too late to receive any benefit from the change. Climatic changes are of great importance in properly selected cases, and I do not wish to undervalue them; but cases like the one just mentioned could receive no benefit from climatic influences alone, and having practiced for ten years in one of the most noted resorts in the United States for the climatic treatment of tuberculosis, I can recall a number of similar cases that came to us only to sink rapidly to dissolution. It is not claimed that there is an antitoxin or an antitubercle serum that can be depended on to combat tuberculosis in its various forms and phases; but it is claimed that serum therapy furnishes us with a sure means of detecting the disease in its incipiency—even before its location in the organism can be made out—and far in advance of any other means of diagnosis. The importance of early diagnosis is self-evident. If no complications exist, and the general conditions are favorable, tuberculosis is quite manageable in almost any climate; but if for any reason a change becomes necessary or desirable, serum therapy enables us to advise that change at a time when benefit might reasonably be expected. Moreover, if the case has been permitted to progress until the infected area has been invaded by organisms far more destructive than the tubercle bacillus, serum therapy, while not perfect, not infallible, offers the only hope that comes within the range of our present knowledge. This hope grows brighter as the days go by and we note the advancement of this rapidly growing art; and to those of us who keep track of its progress the day of full fruition seems more than a possibility.

It is already well known to us that blood-serums act in different ways in different conditions, and that a full explanation of this variation is impossible with our present knowledge of the subject. Some of them have

a direct germicidal effect, some an antitoxic effect, while still others seem to act principally by cell stimulation or by producing phagocytosis. Sufficient time has not yet elapsed for a full investigation of all these phenomena so that explicit reasons may be given for apparent discrepancies; but when we remember that smallpox vaccination was practiced with wonderful success for fifty years before its action could be fully explained, our impatience at the present time seems just a trifle unreasonable. The very latest addition to our knowledge of smallpox infection is the discovery of the bacillus of vaccinia by Stanley Kent, of St. Thomas Hospital, London, the announcement of which was made but a few weeks ago. The discovery should forever put an end to the former dangers encountered by the use of impure vaccin virus and thus remove the only remaining reasonable objection to vaccination.

During the past year, while no astounding revelations have been made, such as electrified the world when Roux read his famous paper at Budapest, yet a number of important advances have been made and a few important discoveries announced. The antipneumococcic serum, which was entirely new at the time of my last report, has grown in favor, not only by Pane, its originator, but also by others who have given it a trial. Pane's own experience in Naples has been quite extended and very satisfactory; while at Guy's Hospital, Eyre and Washbourne have conducted a series of experiments which have established the value of the remedy to their entire satisfaction.

Tetanus antitoxin has grown wonderfully in favor during the year, owing, no doubt, to a better understanding of its action. Its greatest field of usefulness still continues along the line of prophylaxis, and in this respect it has no superior in any branch of medicine. Surgeons and veterinarians have come to recognize this fact to such an extent that a large number of them now make a routine practice of administering one or more immunizing doses of the serum after such accidents or surgical operations as are usually followed by attacks of tetanus; and in no case, so far as I know, has the disease developed after such immunizing treatment. The curative properties of tetanus antitoxin are also better appreciated than formerly, chiefly through the improved method of administering it. I refer to the intracerebral injection devised and first practiced by Prof. Roux, of the *Institut Pasteur*, Paris. This method, while rather too formidable for the general practitioner's application, is easily within the scope of the ordinarily skilful surgeon, and many successful operations have been reported since its first introduction, a little more than a year ago.

STREPTOCOCCAL INFECTION.

It has been my good fortune to see and study a large number of cases due to the streptococcus microbe as well as to report on their treatment with Marmorek's serum. From the very first, my experience ran in pleasant lines, and the favorable impressions expressed in former papers are intensified by more recent investigations. So uniform has been the success of the remedy in my hands that in no case have I had reason to regret its use.

Now, please discriminate between the legitimate action of the serum and the recovery of a patient who, among a multiplicity of pathogenic conditions may chance to number streptococcal infection with them. All that is claimed for the Marmorek serum is that it destroys the streptococcus germ and relieves such symptoms as are caused by it. If the case is one of purely streptococcal infection, as we see in most cases of erysipelas, one or two efficient doses of the serum will quickly destroy the germs, relieve the symptoms, cure the disease and restore the patient's health. On the other hand, if the case is one of multi-infection, so frequently noticed in advanced cases of tuberculosis, in diphtheria, in scarlatina, etc., then the Marmorek serum will simply eliminate the one factor on which it is intended to operate and leave those remaining to be combated by appropriate means. In many cases of tuberculosis with mixed infection, the complication is far more destructive, or at least more rapidly destructive, than the original malady; and in some of these the most brilliant results are obtained from the timely use of Marmorek's serum. These, of course, are cases in which streptococcal infection is the only, or at least the principal, complicating factor, as mentioned in some of my former papers.

I have mentioned on several previous occasions that the antistreptococcic serum is one of the most difficult of its class to properly prepare; that it has been poorly made by several manufacturers; that it has been indiscriminately used by many physicians without regard to appropriate indications; that it has been given for cure of the patient, and not for the cure of streptococcal invasion; and as a result of these combined causes a number of failures have been reported. It has been my purpose to point out these facts and to endeavor to correct the errors and prevent the disappointments that are sure to follow laxity in judgment and method. To this end I have advised the use of the serum made by Dr. Marmorek himself, and not to trust to those prepared by manufacturers who even express a lack of confidence in their own productions. Carrying out this idea in practice, my experience with Marmorek's serum has been eminently satisfactory, and it is with much pleasure that I can refer to a number of fellow practitioners whose enthusiasm exceeds my own. Referring to the report of the committee of the American Gynecological Society, just filed, it is precisely in line with a prediction I made six months ago[1], and should not deter one from using the Marmorek serum promptly, fearlessly and confidently in all cases where the streptococcus is found.

Two discoveries have been announced during the year, which, if they prove to be well founded, are of such importance as to command our heartiest congratulations. I refer to the germs of cancer and of scarlatina; and I am only too sorry that the time since the announcements were made is so short that full confirmation is impossible. Most of the other diseases that have been subjected to serum treatment, including a few new ones added during the year, are still undergoing investigation, and nothing of special importance can be mentioned concerning them. However, it may be said that a few of the most dreaded, such as the bubonic plague, leprosy, yellow fever and Asiatic cholera, give greater promise of yielding to treatment than do those of a milder type. With men like Sanarelli, Yersin, Koch, Haffkine, Archinard, Marx, Sternberg, Jellinek, Ashmead, Clemow and others constantly on the trail of these terrible maladies, but little surprise will be expressed when their final subjugation is announced.

Since the writer's study of serum therapy began, about four years ago, a few glaring faults have been noticed and frequently commented on in the hope of seeing them corrected. One is the permission granted by our authorities for the indiscriminate manufacture and sale of antitoxins, blood-serums and vaccins without proper supervision. These are delicate substances, delicate in struc-

[1] New York Med. Jour., Jan. 14, 1899, p. 63.

ture, in nature and action; they are perishable and changeable to a degree unknown in any other class of remedies; their preparation deals with the infinitely small; contamination and ruin may creep in all unobserved and unsuspected by the novice manufacturer; the quality and strength of the finished product can not be determined by one of limited skill and experience; and finally, special equipment and favorable surroundings are an absolute necessity for the proper prosecution of this work. Clean, pure, reliable antitoxins can not be produced in a livery stable or in a veterinary hospital, any more than linen can be cleansed and purified in a blacksmith's shop. The fad for making antitoxins began as soon as antitoxins became articles of recognized utility, and the craze extended until antitoxins and blood-serums are on tap at short notice in many a dingy barn where not a single sanitary prerequisite for their production is to be found. All this is to be deplored; for no matter how little the manufacturer may possess, either in skill or equipment, a certain amount of his product will find its way to the consumer, where its failure will be noted and charged up against the entire system.

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EXPERIMENTS WITH PARALDEHYDE.*

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PITTSBURG, PA.

This remedy was first introduced to the medical profession by Cervello. I think he was an Italian, as it was soon after reported by Morello and Bergesio at a meeting of the Italian Medical Association.

Paraldehyde is formed from an aldehyd or dehydrogenated alcohol by the action of an acid, either acetic, nitric, sulphuric or sulphurous. Some writers have called it an exaggerated aldehyd, as its molecular composition is a multiple of the latter by three, aldehyd being represented by the symbol C_2H_4O, and paraldehyde by $C_6H_{12}O_3$. When acted on by chlorin it is said to be converted into chloral. It is a colorless liquid, having an unpleasant taste and peculiar odor, which remains with the breath many hours after its administration. Its specific gravity is 0.998, boils at a temperature of 225 F., and is miscible in eight times its bulk of water. Some of the Italian medical profession recommend it as a sedative and hypnotic. For it are claimed all the good qualities of chloral, without its dangers; that it acts first on the cerebral hemispheres without the preceding excitement so common to hypnotics, and subsequently affects the medulla and cord; that in fatal doses it paralyzes the center of respiration, and the heart is last to act; that its hypnotic effect can be maintained by the repetition of sufficient doses; that no ill effects, no nausea, depression nor headache have been noticed after its free administration. This is in substance a quotation from the *Medical News*, on introducing the drug to the medical profession as founded on the experience of Italian reporters.

Another quality of the drug discovered by Cervello is its antagonism to strychnia, although strychnia does not antagonize paraldehyde, the antagonism not being reciprocal[1].

Of the American profession, Dr. C. L. Dana of New York, Dr. J. C. Wilson of Philadelphia, and Dr. J. R. Uhler, have reported their experience with paraldehyde[2], and recently Dr. John V. Shoemaker of Philadelphia.

It has been used in sciatica and supra-orbital neuralgia, but gave only temporary relief. The dose was from .5 to 1 dram, with no bad effects. Dr. Dana thought it somewhat less sure and powerful than chloral, but that it might prove useful when that failed or was contra-indicated. Dr. Wilson's observations do not seem to have been so favorable. He thinks it requires a speedy increase of the dose, and that while it may be safe, it will never supersede chloral. Dr. Uhler thinks the sleep produced by this agent is not so profound as that of chloral, but if a patient has to use a sleep-producing agent for a long time, paraldehyde is probably the best, as it does not cause excitement in the early stages of its action, nor interfere with the heart, and is probably a safer remedy. Dr. Shoemaker gives the most flattering report. It may be well to add that the taste and odor are so unpleasant that a patient would very likely not become addicted to its use except in case of necessity.

EXPERIMENT NO. 1.

Six patients in the hospital were selected for the experiment.

The first patient, Mr. W., was given .5 dram, pulse 68; dose repeated in 30 minutes, pulse 65; returned in twenty minutes, found patient asleep, pulse 64; patient still asleep at 5 a. m.; on the following morning, pulse 84; no ill effects.

The second patient, Mr. T., was given .5 dram, pulse 68; dose repeated in thirty minutes, pulse 80; returned in twenty minutes, pulse 64, patient not asleep, but slept most of after part of night; bad headache next morning, pulse 72.

The third patient, Mr. K., was given .5 dram, pulse 88; dose repeated in thirty minutes, pulse 80; returned in twenty minutes, pulse still 80; patient slept very little, if any, during the night; no ill effects.

The fourth patient, Mr. C., was given .5 dram, pulse 84; dose repeated in thirty minutes, pulse 65; returned in twenty minutes, pulse 64; patient up all night and tore up his bed; no ill effects.

The fifth patient, Mr. N., received a dose of .5 dram, pulse 68; repeated in twenty minutes, pulse 64; returned in twenty minutes, patient dozed, pulse 60; he slept well during the night; no ill effects.

The sixth patient, Miss C., was given .5 dram, pulse 96; repeated in thirty minutes, pulse 100; twenty minutes later, pulse 92; patient slept two hours during the night, no ill effects.

At another time five female patients were selected, who were kept on the medicine for a number of nights in succession.

The first patient, Miss C., same as before mentioned, was given .5 dram, which was repeated in thirty minutes; only slept a few minutes during the night; the second night she was given 1 dram, but slept none; next morning she had a headache, dry mouth, and was crying and begging the nurse to give her something to relieve her misery and put her to sleep. She ever after refused to take the medicine.

The second patient was given .5 dram, repeated in thirty minutes, and slept well; the second night she was given a dram and slept after one hour. The third night she was given 2 drams and slept in half an hour; the fourth she was given 2 drams, seemed stupid, but slept very little during the night.

The third patient was given .5 dram, repeated in thirty minutes, but slept very little all night; the sec-

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

1 Med. Record, November, 1883.

2 Ibid, August 25; N.Y. Med. Jour., Dec. 15, 1883; JOURNAL, May 3, 1884.

ond night she was given 1 dram, and still slept very little; the third night she was given 2 drams, but had very little sleep, and the fourth night she was given 2 drams, but remained up all night.

The fourth was given .5 dram, repeated in thirty minutes, with no sleep; the second night she was given 1 dram and rested moderately well; the third she was given 2 drams and slept very little, and the fourth night she was given 2 drams and slept well.

The fifth patient was given .5 dram, repeated in thirty minutes, with no sleep; the second night she was given 1 dram and slept very well; the third she was given 2 drams and had very little sleep during the night, but the fourth, given 2 drams, she rested much better than on the previous night.

On the fifth night, the night-watch reported all as resting well with one exception, but to her great surprise was informed that none of the medicine had been given.

This remedy has been resorted to in a number of other cases in which it acted like a charm, but in many it has failed me altogether. I tried the remedy on myself, but with such ill effects that I did not care to repeat it. As this was tried mostly in cases of insanity, it is, probably, not a fair test either for or against it.

Alcohol, we are sure, is a violent poison in large doses. In the dose of less than an ounce it has been known to kill a medium-sized dog, and many cases are on record of fatal effects being immediately produced in the human subject after comparatively small quantities have been swallowed. As paraldehyde is a preparation from alcohol, and much more concentrated, it is proof that it is more poisonous, unless it is denarcotized during the process of preparation. From reports of different experimenters, a number of patients who were given large doses complained of feeling very similar to those following debauch. Judging from the opinions of others, and that of my own experience, I do not consider it a good hypnotic. I found .5 and 1 dram doses to act better than larger doses. Headache was less liable to follow. Out of eleven cases selected, I can boast of but one happy result. In other cases I had some good and some bad results, occurring with the same patients. Also, we notice in most of the cases, the increase of dose seemed to add to the bad effect. In some cases I recorded pulsations, but took no notice of respiration. It is certainly a hypnotic, and while it may be safe, given in proper doses, I fail to notice any property which makes it equal to other remedies at our command.

EXPERIMENT NO. 2.

In testing it as a germicide I used the following:

Sugar (gran.)	
Yeast (dried) āā	gr. xx
Paraldehyde	ʒi
Distilled water	ʒi

Misce.

I let the mixture stand one week in a warm place, with no fermentation whatever. From this and further observation I believe paraldehyde to be a germicide, but do not know the minimum per cent. at which it will act as such.

Finally, the taste of the drug is very disagreeable. A large quantity of water is necessary to dilute it for use, and the fact that it does not supply the demand already met by other agents, will, in my opinion, prevent its extensive use both in private and in hospital practice.

EXPERIMENT NO. 3.

A large dog was given strychnin sulphate, gr. i, at 9:15 a. m., but on account of the very disagreeable odor and taste of the antidote—paraldehyde—its administration per orem was a failure, as only one dram was given in one and a half hours. Still the effects of the poison did not show until about 3 p. m., possibly being retarded by the antidote. At 6 p. m. I found him in tetanic spasms of a very severe type, a mere touch being sufficient to throw him into convulsions. At this time I gave hypodermatically, paraldehyde, m. xl, at 6:30; half an hour later I repeated, m, xlvi, also hypodermatically, and left him for the night. On the following morning the dog was reported dead. At 4 p. m., on learning that he was alive, I proceeded to his kennel, at which time he partook of raw beef freely. He made a complete and rapid recovery.

Three weeks from the time of this experiment, at 9:30 a. m., I administered to the same dog, parald. m. xxv per orem, at the same time giving him strychnin sulphate, gr. i., immediately after followed by paraldehyde, m. xxiv, hypodermically. In one hour, m. l, two hours later, m. l, and at this time he ate raw beef freely. At 6 p. m. I repeated, m. xxv—all hypodermatically, except the first m. xxv—and left him for the night. During this experiment he did not reach the spasmodic stage, although locomotion was very much disturbed, which possibly was partially caused by the free use of the paraldehyde. Next morning he refused to eat, but I think it was possibly on account of a sore mouth, caused by the first dose of paraldehyde, fearing that the meat was again saturated with it. At noon, however, he ate with relish, but deglutition was somewhat disturbed. On the following morning he ate again, and took water freely, deglutition still slightly disturbed. He made a perfect recovery. With this limited experience I am forced to believe that it is at least partially a physiologic antidote to strychnin. However, to establish this conclusion further observation must be made.

The experiments of Prof. Bokai confirm what I have stated[3]. "In no case did the strychnin produce death, neither in moderate nor lethal doses, but in fatal doses of paraldehyde, strychnin had no effect in removing the poisonous symptoms, or to delay its fatal processes. Hence the antagonism is probably one-sided." The hope is not unreasonable then—and in fact, proven in my case—that if paraldehyde be given soon after symptoms of a poisonous dose of strychnin it might serve to antagonize it. Should it prove to be an antidote, its use for this purpose would be almost without risk, since it is freer from unfavorable action on the heart and respiratory center than that possessed by chloral and chloroform, which are known to have some antagonistic power to strychnin. But before these conclusions can be accepted as established, much more elaborate experimental research must be made.

The Italian observers give us the most favorable reports. I have observed, however, that in large doses we may have, in some, symptoms similar to those following a debauch. I have often used it in acute alcoholism, with very marked hypnotic effects when other hypnotics have failed to produce sleep. In properly selected cases I find it to act very well, but as a universal remedy I do not think it as good as some others at our command.

Since the cord in a dog is much larger in proportion than in a man, and the principal physiologic effect is on the cord, would not a grain dose of strychnia be greater in proportion to the relative sizes of the spinal cords of the dog and man? This so, it would require a much smaller dose to counteract the same amount of strychnia in a man.

It might be well to mention here the dangers of a con-

[3] Pharm. Post, April 24, 1886.

tinued use of paraldehyde, as a number of cases of drug habit have been published which seemed to be as serious in its nature as that of any other drug habit.

ACCIDENTAL WOUNDS OF THE FEMALE BLADDER.*

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Accidental opening of the bladder has, for many years, been considered one of the most serious accidents that could occur in the course of the complicated work which gynecic surgeons are often called on to do. It was not until 1886 that a successful case of intraperitoneal suture of the bladder was recorded by Sir William MacCormac and Mr. George Heaton, while White, in the course of an article in Dennis' "Surgery," states his belief that sutures placed in the wall of the bladder for the purpose of closing extraperitoneal wounds of the viscus are useless. This, coupled with the fact that there are on record comparatively few cases of injuries to the bladder successfully treated by suture, while accidents of this nature must be of common occurrence, makes it important that all individual experience bearing on this subject should be recorded.

Injuries to the inferior surfaces of the bladder generally occur in the course of the separation of the uterus from this wall, when the peritoneal cavity is entered by means of an incision made in the anterior vaginal wall. The accidental opening of the bladder in this situation is, however, less common than might be supposed, close as is the relation between the organs and the frequency of this procedure.

The following case is offered in illustration of this type of injury:

M. M., 37 years of age, was admitted to the gynecic division of the New York City Hospital, Nov. 1, 1897, suffering from ovarian disease, chronic endometritis and interstitial myomata, for which a vaginal hysterectomy was performed by means of an incision along the anterior vaginal wall, beginning about one inch below the meatus urinarius, and carrying it down to, and around the cervix. During the dissection of the right vaginal flap from the bladder, such persistent oozing of blood was encountered as to render the proceeding extremely difficult. On nearing its junction with the cervix, the bladder was opened, but the accident was immediately discovered. The wound was forthwith closed by means of three Lembert sutures of fine silk, which were introduced through the muscular coat only. The wound was disinfected, and the operation completed in the ordinary manner. The wound in the vaginal wall was brought together by means of catgut sutures; iodoform gauze was placed in the vagina, and suitable dressings were applied. The bladder was catheterized every three hours for several days, after which the patient was able to urinate naturally.

Accidents are also so likely to occur to the posterior wall of the bladder, while the operator is breaking up old adhesions to the intestine and omentum, to diseased pelvic organs or to tumors. In separating such adhesions, unless great care be taken, the bladder will often suffer injury. In cases of this kind the wound rarely extends through the mucous membrane, and a few interrupted Lembert sutures will ordinarily suffice.

The following case is an illustration of intra-abdominal bladder injuries:

M. H., a single woman, 41 years of age, was admitted to the gynecic service of the New York City Hospital, Sept. 30, 1898, suffering from a large myoma, which extended above the umbilicus. On Oct. 3, after the usual preparation, and under ether narcosis, the abdomen was opened by means of an incision six inches in length, and to the right of the median line, beginning about two inches above the pubes. The tumor, which weighed seventeen pounds, was drawn through this incision, freed from its attachments and removed, together with the body of the uterus, which was amputated at the internal os. This tumor proved to have sprung from the anterior uterine wall. During the operation hemorrhage occurred from some sinuses on the surface of the tumor, which having rigid walls could not be clamped, therefore it was necessary to remove the mass very rapidly. To accomplish this the anterior attachment of the tumor was clamped and cut, when it was discovered, from the escape of urine, that the bladder had been opened at the fundus. At the beginning of the operation, the general cavity had been shut off with gauze pads, and the parts had been thoroughly irrigated, and the bladder walls, including the wounded part, drawn well up. The irrigation of the pelvic cavity was followed by the use of hydrozone in half strength, and this, in turn, by saline solution. The gauze pads were next changed, and the opening in the bladder, which proved to be about four inches in length, was closed by means of two layers of chromicized catgut sutures. The first row was introduced from within the bladder, and included the mucous and muscular coats, the knots being in the interior of the bladder. These sutures were thus placed on account of the extensive wound, which made it impossible to get the parts properly joined together in any other way. The second row was introduced from the outer side, after the manner of the mattress sutures, and included only the muscular and peritoneal coat. The wound was disinfected, and there being a large peritoneal flap, it was attached to the bladder, and made to cover the line of sutures, thus making the bladder wound extraperitoneal. After further washing out of the abdominal cavity the abdominal wound was closed without drainage, and the usual dressings applied. As the operation was prolonged, and the patient feeble, it was not thought advisable to make a vesicovaginal fistula for the purpose of draining the bladder, but instead a self-retaining catheter was introduced. For about ten days the convalescence was uneventful, except that occasionally the catheter would become blocked by a knot of one or other of the catgut sutures, which began to come away by the end of the third day. At the end of this time tumefaction occurred over the lower angle of the abdominal wound, and, on opening it, urine began to escape. A vesicovaginal fistula was made, and the mucous lining of the bladder attached on either side to the mucous lining of the vagina, by means of silk sutures. This was done for the purpose of keeping the fistula open, and to afford adequate drainage. The sinus in the abdominal wall was curetted and, after being thoroughly disinfected with hydrozone, its walls were sutured. The abdominal sinus having closed, the sutures which kept open the vesicovaginal fistula were removed, and this fistula closed quickly without any further operative interference.

The most dangerous and least often injured portion of the bladder is in the region of the trigone. It is here, when an injury does occur, more than in any other place, in gynecic operations, that a cool head, and a good knowledge of anatomy and surgical technic are necessary, but with these requisites and a knowledge of

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

the work accomplished by Kelly, Van Hook, Krug, Penrose and others, in the management of the vesical ends of the ureters, we may almost invariably look for a successful result.

Percival[1] reports a case of ruptured bladder on which he had operated. The rent was in the midle of the posterior bladder wall, about four inches in length. It was closed by means of a double wall of Lembert silk sutures. The wound in the abdominal wall was closed, after the peritoneal cavity had been flushed out with boric acid solution and a large quantity of clots and urinous fluids had been removed. For a few days the patient did well, and then died from peritonitis. But the necropsy proved that the bladder wound had completely healed. It is the writer's opinion that had saline solution and hydrozone been used, instead of boric acid, and the wound been kept open, the patient would possibly have recovered.

Wyeth[2] in the course of a paper entitled "Suprapubic Cystotomy," says, in describing the operation, that when the bladder is not inflamed, as after the removal of a small tumor, stone or foreign body, the operator may close the bladder by immediate suture. This is a very desirable method of dealing with the wound, for the reason that it does away with the necessity of drainage, and of the slow healing process. Two successful cases of immediate suture of the bladder wound are also reported by the same author.

The writer of this paper believes that with the technic at present at our command, wounds of the bladder made in the course of operating, whether extra peritoneal or intraperitoneal, should be closed immediately, and the operation continued as if the accident had not occurred, and notwithstanding the fact that drainage is not used, there will be little or no danger of peritonitis, extravasation of urine, or hemmorhage. It is of great importance when breaking up adhesions and removing tumors, or separating the bladder from the anterior vaginal wall and uterus, to be certain whether or not the bladder has been injured, and it has been the writer's custom to test this by the injection of saline solution, or by the uterine sound. Catgut is undoubtedly the best material for suturing the bladder wall, and no harm will result in case the suture is passed through the mucous lining of the bladder. A large proportion of all fatal cases of rupture of the bladder that have been operated on die from faulty stitching. In injuries of the posterior wall of the bladder, the sewing process is facilitated by the use of the Trendelenburg posture. In extensive intraperitoneal wounds of the bladder, where the vaginal wall is intact, it is best in the after-treatment to drain by means of a vesicovaginal fistula, which promptly heals, in the majority of instances, without operative interference, as soon as the sutures which hold its edges apart are removed. These fistulæ differ from those occurring during childbirth in that there is no loss of substance. When the damage is not extensive, or when it occurs in the inferior wall, the peritoneal cavity having been opened, the bladder wound should be sutured, and the viscus drained by means of a self-retaining catheter, or by having a catheter passed every two to three hours. The healing of the wound may also be aided by the position of the patient in the bed.

While accidental wounds of the bladder occurring in the course of operations are to be deplored and guarded against by every possible means, when they do occur, the knowledge of their existence is of the utmost importance, for, as soon as discovered, they may be treated much in the same manner as simple incisions in any other part of the body. The fear of septic peritonitis has prevented a general appreciation of this fact, but the labors of American gynecologists in proving the safety of closure of abdominal wounds without drainage, even where infection is known to exist, has done much to establish on a firm basis immediate suture of wounds of the bladder. The operation advocated by Rydgier, of opening the bladder for the removal of tumors and calculi from its peritoneal side, has been followed by a lower rate of mortality than the older extraperitoneal, suprapubic or perineal operations.

Before operations on the pelvic organs are begun, and after the administration of the anesthetic, the surgeon should himself empty the patient's bladder by means of the catheter, instead of, as is usually done, leaving this for the nurse to do, before placing the patient on the operating-table. Attention to this detail would not only lessen the danger of injuries to the bladder, but when they did occur would lessen the danger of septic infection.

It is the writer's belief, based on many years' experience in abdominal surgery, that where care is taken there is no more reason why a recent intra-abdominal wound of the bladder should not be sutured and the abdomen closed without drainage than in the case of a wound occurring in the bowel. We must recognize the fact that, in the course of operations on the female genital organs, injury to the bladder is occasionally inevitable, but fortunately for all concerned when this accident does happen, our patient's life is not necessarily endangered, or her recovery retarded thereby.

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[1] British Medical Journal, 1897, Vol. i, p. 1282.
[2] N. Y. Polyclinic, Vol. x, No. 1.

INTESTINAL TREATMENT OF TUBERCULOUS PERITONITIS.*

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In his "Principles and Practice of Medicine," Osler uses these words: "The treatment of tubercular peritonitis has fallen largely into the hands of the surgeons." And after a long search among medical text-books I ceased to wonder at this, for I could get but little information on the medical treatment. Therefore the average practitioner who depends on his text-books would seem to have no way of learning how to treat it. He is taught to treat peritonitis by opium, rest, etc., and to send the case to the surgeon.

The fact that improvement takes place after an abdominal incison in cases of tubercular peritonitis, has led many surgeons to look on the procedure as a cure. If, however, we believe with von Winckel that five years should elapse before the patient is considered cured, and remember that only about 15 per cent. have been under observation more than two years[1], we must infer that such an opinion is premature. A case of mine may serve as a sample. I reported the young woman as teaching school eighteen months after the operation, and, according to information given me, in good health. At the end of three years I received word that she was dead.

On account of the uncertainty of the reported cures I have not taken the time to tabulate them. I have, however, been struck with the similarity, in some recent re-

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

ports, of the results of medical and surgical treatment.

E. Schroeder[2] reports on 24 cases treated in the medical clinic at Bonn with the following results: Deaths, 33 per cent; unimproved, 20 per cent.; discharged about cured, 41 per cent.

Parker Sims[3], in reviewing the subject, says that some writers claim cures in 80 per cent., others in 24 per cent., by abdominal incision. His own conclusion is that improvement occurs in about 80 per cent., and a permanent cure in about 30 per cent. Here we have 20 per cent. unimproved in the medical treatment against 80 per cent. improved in the surgical, and 41 per cent. discharged about cured by medical treatment against a permanent cure in about 30 per cent. by incision.

The treatment by abdominal incision, which is undoubtedly followed by immediate benefit, must still bear the burden of proving that the ultimate results are the better. Some cases have undoubtedly been demonstrated to be cured by a subsequent abdominal section, but, on the other hand, subsequent abdominal sections in cases that had shown improvement have demonstrated uninterrupted progress in the disease[4].

The most suspicious fact of all, in these cases that show improvement is that no one can find out how or why the improvement takes place. It is not from the removal of fluid, because tapping does not produce the same improvement, and because cases without fluid accumulation are also benefited by it. It is not the exposure to air or light, because a quick operation works better than a long one. It is not anything that destroys the bacilli, because the introduction of germicides does not materially affect the results. To say with Tait that opening the abdomen produces a change in the physiologic character of the peritoneum, which enables it to destroy the tubercle bacillus, is contrary to our experience with the peritoneal cavity, for we know that to open the peritoneal cavity and expose it to air impairs the functions of the peritoneum from A to Z. It is said that the cure is produced by increased phagoctyosis. But do not the new conditions that call for phagocytosis require all of the phagocytes and perhaps more for their own cure?

I have come to the conclusion that there is something connected with the abdominal incision that is not connected with tapping or other forms of treatment, and that it is the same thing that causes improvement in almost all cases treated by abdominal section, even when pathologic conditions in the peritoneal cavity are not removed or are not even found. Thus cases of neurasthenia, hysteria, epilepsy, pelvic pain, etc., are usually temporarily benefited by an abdominal section, although they may lose the benefit later.

This something, according to my observation, is the preparatory, and after-treatment of that belongs to abdominal section. There is no doubt that the medical treatment ordinarily used for subacute and chronic tubercular peritonitis is in some respects similar in nature to that belonging to peritoneal section, but it deviates in laying more stress on nourishment and tonics and less on intestinal rest, intestinal depletion and intestinal disinfection, i. e., it deviates in the most essential parts.

The quickest and best way of explaining the application of the treatment is to report a case in point:

Mrs. L. B. L., aged 33, married thirteen years, mother of five children, the youngest 2½ years old, and one abortion twelve years ago, was treated for pulmonary tuberculosis fifteen years ago, at which time she had severe cough that lasted about two years. For a time the cough was much worse when lying down, and she had to sleep in a chair. She has had a slight cough ever since.

In December, 1898, she complained of abdominal soreness and pains for two weeks, when the menstrual period, which had been normal, came on with an increase of pains. The flow was slight for five days and then profuse for five days. She felt some better until Jan. 20, 1899, when she menstruated with some pain, and was bloated. On February 1 she was taken down with acute peritonitis, accompanied by an increase of the abdominal distension. The highest daily temperature ranged between 102 and 103 F.

She was brought to me for an operation February 26, at which time the temperature ranged beween 99.8 and 102.6 F., always from 1.5 to 3 degrees higher in the afternoon than in the morning. The pulse varied between 90 and 110, but was poor in quality. An encysted peritonitis was diagnosed, the accumulation of fluid reaching above the level of the umbilicus on the left side and not quite as high up on the right. By vaginal indagation some induration could be felt beside the uterus. She was put on strychnia, gr. 1/20, and ten minims of the tincture of the citrochlorid of iron three times daily, after meals, ℥i of sulphate of magnesia twice daily, and ℥ss. of brandy four times daily. Hot applications were applied to the abdomen. She was allowed a piece of broiled steak for dinner, thoroughly dried toast three times daily, and liberal quantities of fluids. At the end of a week she was allowed an egg-nog every morning.

At the end of two weeks (March 9) the temperature and abdominal enlargement were the same, although the pulse remained between 90 and 100, and the nutrition and general appearance of the patient had improved. I now considered it the best time to operate, and gave her four grains of the mild mercuric chlorid at bedtime, to be followed by salines the next morning, etc. But by the next day I had made up my mind to give the plan of treatment I have been speaking of a trial, and proceeded to carry it out. The salines were stopped after sufficient had been given to produce four bowel movements, and then continued in dram doses twice or three times daily as necessary to produce two semiliquid stools each day. All solid foods were withdrawn, and six ounces of peptonized milk alternated with one ounce of liquid peptonoids three hours apart were ordered. Six grains of salol were prescribed four times daily. The iron and strychnia and brandy were continued. After three days a small quantity of thoroughly-dried toast was allowed three times daily, and the diet was kept the same for ten days, or until March 20. After that she took Mellin's food a part of the time instead of the milk, and was allowed a little cottage cheese, butter, 40 per cent. gluten biscuit and from one to two ounces of a delicate cereal such as cornstarch or rice once daily.

From this time the improvement was steady. I marked the upper border of the fluid with ink each week, and demonstrated a steady diminution until, when she left the hospital on April 1, there was no dulness on the right side of the median line, and only a narrow border extending from Poupart's ligament over the crest of the ilium on the left side. The pains and tenderness and abdominal enlargement were gone, and she was gaining flesh. The temperature seldom reached 100, but usually marked from 99.2 to 99.6 F. in the afternoon.

I was unable to keep her under observation until cured, and am not attempting to prove that she is or will be cured. I am merely endeavoring to illustrate the effects of a certain method of treatment, as compared with abdominal section, on the progress of the disease. The progress of this case demonstrated to those of us who watched it that whenever the nourishment was pushed

during the first two weeks, the severity of the symptoms was increased. From the time that she was put on the strictly liquid diet and salol, the improvement was marked and sustained.

I am not discussing remote results, for that belongs to the future, but my experience with this and with similar cases that had been subjected to an operation has convinced me that in subacute as well as acute tuberculous peritonitis we must for the moment make the supporting treatment subservient to that of the inflammation, and that the *treatment of the alimentary canal,* in addition to the use of tonics and stimulants, is the one on which we should depend. If we destroy the sources of local irritation, Nature will often do the rest.

We should endeavor to keep the alimentary canal as aseptic as we do during and just after an abdominal section, and this applies to the prodromic stage as well. Two or three liquid stools should be produced daily, by salines. Eight or ten grains of salol, guaiacol, or an equivalent, should be given from three to four times daily to aid in disinfecting the alimentary canal, and possibly in producing some effect on the bacilli. The diet should be entirely liquid and should be such as to produce the minimum of gas or solid residuum in the intestinal canal. If it is thought wise to try to affect the disease by mercurials, calomel or blue mass would be better than inunction, because it would stimulate the action of the liver and aid in disinfecting the intestinal canal. The same rest in bed is necessary as after an abdominal section. In subacute cases the patient usually tries to be up and about, and this increases the inflammation.

In subacute and chronic cases opium should never be given under any circumstances, except to check a diarrhea that resists other medication. A proper restriction of the diet and hot fomentations, or an ice-bag, will relieve the pain, while bismuth and soda in connection with the salol and guaiacol will check a tendency to diarrhea. Ordinarily I do not give bismuth, because I do not wish to check the action of the bowels.

If the same rapid improvement can thus be obtained without the abdominal incision, then the incision will be indicated only in the severe or neglected cases in which the fluid can not be made to disappear by absorption. Even then tapping can be substituted by those who have not the facilities for an aseptic section. At least there will be no excuse for opening the abdomen early and before time for absorption has been given, and before the intestinal treatment has been thoroughly tried.

If more innocuous specific germicides shall be discovered for tuberculosis, it is possible that they can be given by mouth or per anum in sufficient quantities, and for a sufficient length of time to destroy the bacilli in the tissues. I have depended mainly on intestinal asepsis. Perhaps in the future intestinal antisepsis may add to its efficiency. I would therefore recommend the following treatment:

During the first few days of an acute attack the usual treatment for acute peritonitis would be indicated; after the first few days no opium, but the continuation of hot fomentations if necessary for pain and discomfort. Enough calomel may be administered to turn the stools to a dark green. As soon as the stomach will tolerate them, salines are to be given in divided doses to produce two or three soft or liquid stools daily.

The diet must be fluid and in regulated quantities, so as to produce no intestinal gases, until the subacute symptoms have passed, and then only such solids may be allowed as will neither leave a solid residuum, nor produce gas either in the stomach or bowels. It is the want of strict and intelligent attention to what is taken as nourishment that leads to intestinal pain, distension, nausea, increase of the peritonitis and effusion and the necessity for an opiate. Salol, guaiacol or creosote are indicated both for their antiseptic action and for a possible effect on Koch's bacillus.

The patients must be kept quietly in bed until all abdominal tenderness is gone and the p.m. temperature is almost normal, and they must be careful to be more quiet whenever there is any rise in temperature or indications of abdominal tenderness or pain.

Tonics, stimulants and general remedies that may be found curative of tuberculous infection are not to be neglected. The patient must be kept under systematic treatment for several months, and should be cautioned to restrict her diet to food that will be easily digested and non-irritating to the bowels, for we know that nine out of ten people who are not careful in eating are almost constantly subject to more or less intestinal irritation.

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RELATIVE TOXICITY OF COCAIN AND EUCAIN.*

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Cocain hydrochlorate is a white crystalline alkaloid obtained from the leaves of the erthroxylon coca, a small shrub of Peru and other western South American countries. Its extensive use as a local anesthetic is so familiar to all that repetition is here unnecessary. It is not my intention in this paper to especially refer to its anesthetic properties, only its toxic effects relatively with those of eucain, as observed in actual practice and as determined by original experimentation.

Eucain is a colorless crystalline powder of German production, and was placed on the market some years ago as an anesthetic to be used in a similar manner to cocain. It was soon observed that the first product, or that which is now called "Alpha Eucain," produced many undesirable and some very disagreeable effects, so much so that its use was soon largely discontinued. In February, 1897, Dr. Silex of Berlin brought forward a new substance, called eucain "B," that it might be distinguished from the first, or eucain "A." These substances are now termed—the first product, alpha eucain, and the second beta eucain. The use of alpha eucain has been almost entirely discontinued, and it is no longer furnished by the dealers unless especially designated in the order.

Beta eucain is said to be a chlorhydrate of benzoyl-vinyldiacetonalkamin.

Were the action of these drugs as anesthetics always unattended with disagreeable, and, as is sometimes the case, alarming symptoms, both of local and systemic character, they would be to the dental and medical professions one of the greatest boons of the present century. Many minor surgical operations, both in general and dental practice could, by the aid of these drugs, be performed with greater facility—and with equally good results—than can be performed without their

*Presented to the Section on Stomatology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

properly used, and also frequently produces poisonous symptoms, ofttimes alarming. If a certain quantity of arsenic or morphia, or almost any other known poison be used under certain circumstances, the resulting symptoms are nearly always the same; we know what to expect. It is unfortunate that the same can not be said of the action of cocain. I have often seen the most alarming symptoms of systemic poisoning result from the use of a certain quantity of cocain, while in other individuals, a like amount under seemingly the same conditions, produces no bad symptoms. There is no other drug in the whole realm of medicine, in connection with the action of which individuals vary so much in point of susceptibility. I have seen all the stereotyped symptoms of systemic cocain poisoning result from the use, in a pulp-canal, of a small quantity of a 1 per cent. solution, while again I have seen 20 minims of a 2 per cent. solution injected into individuals, and this repeated as high as four times without poisonous symptoms resulting, so varying is the susceptibility of individuals to the action of the drug.

I can not pass on without calling attention to the fact that I as firmly believe that cocain produces, in some, local as well as systemic poisoning, notwithstanding the fact that many disagree with this statement. I have seen from the subcutaneous use of cocain, for the extraction of one root of a tooth, three good teeth lost, with extensive destruction of the alveolar plates of bone, together with extensive sloughing of the soft parts, and all this in the absence of any systemic symptoms. Some, no doubt, will say this is the result of infection by an unclean syringe. But how is it to be proven that this is the case? The work has been done under the most careful antiseptic precautions. I have seen so many cases of local poisoning in varying degrees result from the use of this drug, that I am forced to the belief that it possesses local toxic properties as well as systemic toxic properties.

As to eucain "B," there is much to be said in its favor as compared with cocain. During the past year I have frequently used it in practice for devitalizing pulps, for local applications, and by injection, and have as yet observed no evil effects of note. Eucain, however, is not capable of producing the same degree of anesthesia under like circumstances as is cocain. This has been proven beyond the possibility of a doubt by the experiments I have made. As this paper is to deal only with the toxic properties of these drugs, I will not here discuss their anesthetic properties.

Last year, while experimenting extensively with the essential oils, using guinea-pigs largely, I did some work with cocain, and eucain, enough to demonstrate that there was an interesting field in contrasting the two. Since then I have experimented extensively with these agents, using guinea-pigs.

How completely is the statement that cocain varies much in its action demonstrated and proven to be correct by the following experiment—the first one serving to exhibit the poisonous propensities of the drug, and this, too, in the absence of any marked anesthetic effect. A pig, weight 8½ ounces, into which was injected 20 minims of a 2 per cent. solution of cocain, which amount represents 3/20 of 1 grain, after the lapse of eight minutes showed some indications of anesthesia, but these were comparatively insignificant. For the next six minutes various symptoms of distress were exhibited, such as a general spasmodic jerky action of all the muscles of the body, accompanied with evidences of pain. At the end of fourteen minutes its hind legs were partially paralyzed, and one minute later it fell on its side completely overcome. Its head was firmly drawn back, all the muscles of its body being rigid; this condition would, at short intervals, give way to a distressful spasmodic action, general in its scope, and thus these sets of symptoms continued to alternate for a period of five minutes. During these twenty minutes the animal was not anesthetized to any appreciable extent, responding vigorously to a prick of the needle at any portion of the body. The heart action was at first somewhat depressed, but soon recovered, and thereafter its contractions were strong and rapid, evidently being much stimulated. The respiratory organs, at first slightly stimulated, were very soon depressed, and remained so until recovery set in. After twenty minutes it began to recover and at the end of twenty-five minutes could stand on its feet; however, it could not walk without falling. At the expiration of forty minutes, recovery was far advanced. This experiment shows the toxic action of the drug with the absence of anesthetic effect, better than any other on my list. While the poisonous propensities of this drug are frequently manifested, they are usually accompanied with anesthesia.

The following experiment shows in just as interesting and decided a manner the anesthetic action of the drug to the exclusion of nearly all manifestations of poisonous symptoms: weight of pig, 8½ ounces; 20 minims of a 2 per cent. solution of cocain were injected at 10:15:30 p.m.; at 10:25 general anesthesia was quite marked, there being little response to the prick of a needle; when placed on its back it could hardly regain its feet. The heart action was somewhat depressed. At 10:27 it fell to its side, the heart action being now about normal; respiration somewhat shallow and quick. At 10:37:30 it regained its feet and occasionally evinced a desire to run away, its heart action now being strong and rapid and respiration normal. At 10:46:30, 10 minims more were injected, this making, in all, 9/40 of 1 grain. The side in which the second injection was made almost immediately became swollen, as if considerable edema was induced. This has been noted by others, and forms the basis of the claim of some that local sloughing is only due to infection of the products of edema, which have infiltrated the tissues, liquefaction or pus formation taking place and sloughing finally resulting. This is no doubt true, oftentimes. Up to 10:56 the pig remained on its feet, and for the last five minutes preceding would walk about, prick up its ears, look up and chirp, and in various other ways gave evidence of enjoying a period of that intense beatitude and inner joyousness, while a succession of visions and phantasmagoria, most brilliant in color and form, trooped rapidly before his eyes—as related in Wood in connection with the experience of Montegazza while under the influence of this drug. Occasionally it would make a sudden rush, as if impelled by a plenitude of physical power, such as also took possession of Montegazza at various times. At 10:56, symptoms of general anesthesia were quite marked, a condition of general relaxation rapidly developing. At 11 it became unconscious and sank to the table on its side. Immediately after the second injection, the heart action was noticeably depressed, but quickly revived and became exaggerated over that of the normal. The respiratory apparatus was somewhat depressed most of the time. At 11:03 there occurred a slight general spasmodic action of all the muscles, its head being slightly drawn back and accompanied with a feeble cry, as if in slight pain. Action of the heart was strong and rapid; its breathing quick and shallow; true tetanus of various muscles was observed. This endured only an in-

stant, all the muscles becoming perfectly relaxed as before. Thus the animal continued in a state of perfect general anesthesia. At 11:06 action of the heart became feeble and respiration scarcely noticeable. At 11.12:30 the animal was apparently dead; respiration and the heart action both ceased. Thus it lay for 30 seconds; at 11:13 a faint gasp was observed, followed quickly by a second and third. The heart began to beat feebly, and in another two minutes, or at 11:15, the heart was beating regularly, but not so rapidly as normal; the respiratory apparatus was working regularly, but not strongly. Thus the animal remained in a perfect state of general anesthesia for twenty-three minutes, or until 11:38, when signs of recovery were observed. It was then placed in its box, and in the morning was found to be as bright and lively as its mates.

The behavior of other pigs under the influence of cocain has, in some instances, approached the behavior of this one, but no other has been so typical. This, in connection with the results of all my experiments in this particular, to my mind, effectually settles the question of the inconsistency of the action of cocain.

Let us now study the action of beta eucain under similar circumstances.

Twenty minims of a 2 per cent. solution of beta eucain, or 3/20 of 1 grain, injected into a pig of 8½ ounces weight gave at the expiration of thirteen minutes slight evidences of anesthesia—or perhaps better said, the action was that of a mild hypnotic, the animal appearing somewhat drowsy, at the same time all reflexes responding to any interference by way of pricking. The action of the heart and respiratory apparatus was slightly depressed. Three minutes later recovery commenced, and at the expiration of twenty minutes the effects of the drug had largely passed away. Two minutes later another 20 minims, or 6/20 of 1 grain, in all, were injected. Five minutes later slight evidence of nausea was observed; at nine minutes the hypnotic action was more marked and was accompanied with slight evidence of true anesthesia. Its hind parts were somewhat paralyzed, and the reflexes slightly blunted. The heart action and respiration were more depressed than at first. At eighteen minutes it began to recover and at the expiration of twenty-five minutes, or forty-seven minutes from the time of the first injection, was able to walk about. One minute later, or forty-eight minutes from the time of the first injection, a third injection of 20 minims, making 9/20 of 1 grain in all, was made. Five minutes later nausea developed and the animal seemed much distressed thereby. The heart action and respiration being at first stimulated, soon became much depressed; after ten minutes, twitching of all the muscles of the body, spasmodic in character, developed; this condition increased until, at the expiration of eighteen minutes, the animal fell to the table completely exhausted. Its head was firmly drawn back, all the muscles being at high tension; rapid winking of the eyes continued, with gasping for breath and twitching of ears. For the next twenty minutes this condition continued, with violent tetanoid spasms of all muscles following one another in rapid succession, each spasm being accompanied with mournful squealing, which seemed to indicate much distress and pain. At no time were the reflexes, either plantar or cremasteric, lost; neither was there much evidence of general anesthesia; indeed, the entire action seemed to be more that of a paralyzer than of an anesthetizer. The heart action and the respiratory apparatus were much depressed. At times the heart-beat was almost undiscernible, and the animal would distressingly gasp for breath. At the expiration of this twenty minutes, signs of recovery developed, and at the expiration of twelve minutes more it could stand on its feet, but could not walk without toppling over. It was now very late, and the animal was placed in its box, and in the morning was found to be none the worse for its experience. This case is interesting in that it seems to prove conclusively that, at least, three times the quantity of beta eucain is required to produce virtually the same degree of toxicity as is produced by cocain. These results, or this action of the two drugs, as related in this experiment and the first one with cocain, I regard as bearing directly on their toxic properties.

Legrand and Joanin, like Silex and Schmidt, have demonstrated that 1 1/5 grains of cocain are necessary to cause the death of a guinea-pig of 2 1/5 pounds weight, and that 4 5/8 grains of beta eucain are necessary to cause the death of a pig of same weight. I have been unable to secure pigs as heavy as this, the heaviest I have had weighing 26½ ounces. Taking their figures as a basis, and reckoning a fatal dose for a pig of less weight, in direct ratio therewith, it would require 5/6 of 1 grain of cocain to cause the death of a pig weighing 24 ounces, and of beta eucain, 2 4/7 grains would be necessary. Let me say, in this connection, that this manner of determining a fatal dose for a pig of a given weight is not a safe one to follow in dealing with pigs of less than 24 to 25 ounces weight. My experiments seem to conclusively prove that the ratio of a fatal dose of these drugs decreases rapidly in proportion to the decrease in weight and age of the animal.

In my work 5/7 of 1 grain of cocain proved the limit as a fatal dose for a pig of 24½ ounces weight. The symptoms manifested in this case were not in any essential particular different from those occasioned by a non-fatal toxic dose, which symptoms have already been described; except at times they were all exaggerated, and especially was this noticeable in connection with the heart. After the brief depression of this organ, which occurred at first, its action became greatly exaggerated, at times thumping violently, especially as the end drew near and the respiratory apparatus became more depressed. Death occurred at the expiration of nineteen minutes, by paralysis of the muscles of respiration—the heart continuing to beat feebly and irregularly for thirty seconds after breathing ceased.

This violent action of the heart above referred to seemed to be more an effort on the part of the animal economy to supply the needed oxygen to the system, through the medium of the circulation, during the period of respiratory depression, than it was the result of direct stimulation by the drug.

The difference of susceptibility of these animals to this drug is striking. In one instance 1/2 of 1 grain proved fatal to a female pig of 25½ ounces weight, while in another instance a male pig of 16½ ounces weight survived the effects of a like quantity. However, on the whole, I think the sex makes very little, if any, difference in the action of these drugs. The above fatal dose for a pig of the given weight has been determined after many experiments with pigs of different weight, and with different quantities of the drug. The same also is true in connection with beta and alpha eucain.

Of beta eucain, 2 2/7 grains are necessary to cause the death of a pig of 24½ ounces weight. In this experiment death occurred in 32¾ minutes from the time of injection. The symptoms were not unlike those as already described in connection with the use of this agent, except, as in the case of fatality by cocain, they were

use. Unfortunately cocain is, in its action, one of the most inconstant and unreliable drugs in the whole pharmacopeia. It will always produce anesthesia, if greatly exaggerated. At no time were evidences of anesthesia marked, nor were the reflexes entirely lost. The action of the heart and the respiratory apparatus was depressed after a brief period of stimulation at first. When violent spasms occurred the heart action would be temporarily stimulated. Death occurred from paralysis of the muscles of respiration and of the heart, breathing and the heart action ceasing at the same time.

Alpha eucain has proven to be virtually on a par with cocain as to toxic properties. Five-sixths of one grain is the limit as to fatal action with pigs of 25¼ ounces weight. I injected this amount of alpha eucain into a pig of this weight, and at the expiration of seven minutes trembling of all its muscles occurred; at nine minutes its head drooped with the nose to the table; at 11½ minutes the animal suddenly fell to its side, and was seized with violent spasms; its heart action and respiration were temporarily increased, being much depressed very soon thereafter; nausea and some vomiting occurred; the drug also acted as a diuretic, renal discharge occurring quite freely; severe spasmodic contraction of all muscles followed one another in rapid succession, and were invariably accompanied with evidences of pain more or less severe. Death occurred at the expiration of eighteen minutes, by paralysis of the muscles of respiration and of the heart, breathing and the heart action ceasing at the same time.

It is also stated that cocain can not be sterilized by boiling, and if subjected to a temperature of 176 F., is transformed into ecgonin, a substance devoid of all analgesic power; also that boiling does not in any degree affect the efficiency of eucain. I have demonstrated this statement regarding eucain to be true, but if it be true regarding cocain, my experiments in this connection are in error. According to them it is conclusively shown that boiling does not destroy the potency of this drug, but does modify it somewhat. I prepared a 2 per cent. solution of cocain and also of eucain. These I subjected to a bath of boiling water for five minutes. These solutions were allowed to cool gradually, after which 20 minims of the cocain solution were injected into a pig of 8½ ounces weight, with the following result: At the expiration of seven minutes all its muscles were in a tremor, and at ten minutes control of its hind parts was lost; at eleven minutes it fell to the table completely overcome. The symptoms which followed were the same as in other cases, except that they were less violent. At the expiration of thirty minutes the animal had apparently recovered.

Into another pig of 8½ ounces weight were injected 20 minims of the boiled 2 per cent. solution of beta eucain. No symptoms of note followed this injection, with the exception that its hind parts were for a time somewhat paralyzed. At the expiration of 22 minutes a second injection of 20 minims was made. The symptoms following this injection were virtually the same as those which followed the second injection of the other case as related above. At the expiration of forty-five minutes after the second injection, recovery was well advanced. A third injection of 20 minims was now made: the symptoms which followed were identical with, and somewhat intensified over, those of the other case related above. At the expiration of forty-six minutes after the third injection, the animal had nearly recovered.

By way of recapitulation, my experiments lead me to conclude as follows:

1. The action of cocain is inconstant; one never knows whether the symptoms occasioned by like quantities of the drug, in animals or individuals, under like circumstances, will be similar or dissimilar.

2. The action of eucain is constant. The symptoms occasioned by the use of like quantities in animals under like circumstances, and so far as my experiments have gone, in different individuals also, are the same.

3. The first action of cocain on the heart is that of a depressant, and on the respiration it is that of a mild stimulant, the after-effects being, on the heart, that of a decided stimulant, and on the respiration, that of a decided depressant.

4. The first action of eucain on both the heart and respiration is that of a stimulant, the after-effects being that of a decided depressant.

5. Cocain causes death in animals by paralyzing the muscles of the respiratory apparatus, the heart's action continuing in a feeble way for a brief period after breathing ceases.

6. Eucain causes death in animals by paralyzing the muscles of the heart and of the respiratory apparatus, they ceasing to operate simultaneously.

7. Eucain in toxic doses nearly always causes nausea, and occasionally vomiting.

8. Cocain is much less nauseating and scarcely ever causes vomiting.

9. Eucain is decidedly a diuretic, causing renal discharge in a majority of instances in which a toxic dose is used.

10. Cocain is not a diuretic to any appreciable extent, renal discharge having occurred in only one instance in connection with all my experiments.

11. The pupils of the eyes, in nearly all cases of cocain poisoning, do not respond to light and are more or less bulging from their sockets.

12. The pupils of the eyes in most cases of eucain poisoning do respond feebly to light, and rarely ever bulge from their sockets.

13. The action of toxic doses of eucain is more like that of a paralyzing, tetanoiding, convulsion-producing agent, than it is like an anesthetizing one, the plantar and cremasteric reflexes nearly always responding.

14. Toxic doses of cocain cause general anesthesia in connection with the other symptoms in the majority of cases.

15. True tetanus, of all striped muscles of the limbs, and Cheyne-Stokes' breathing nearly always occur with the use of cocain, but seldom does either occur when eucain is used.

16. Cocain is at least three times more toxic than beta eucain, and alpha eucain is as toxic as cocain.

17. Boiling does not destroy the efficacy of cocain, but it does modify it, and boiling in no degree lessens the efficacy of eucain.

The above deductions have been made only after many experiments in connection with each individual point. I have observed many interesting features in connection with the relative worth of these drugs as local anesthetics, but this paper is not to treat of this phase of the work. There is much experimental work yet to be done in this connection, the results of which I shall be pleased to present at some future meeting[1].

DR. JOSEPH B. HAVEN, of Chicago, has been appointed consul to St. Kitts Island, W. I. Dr. Haven was graduated from Rush College in 1880, and had built up a good practice. He left for his new field September 1.

DISEASE OF THE PANCREAS*.

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The infrequency with which post-mortem examinations are made probably accounts for the apparent rarity of diseases of the pancreas. This organ belongs to the important system of secreting glands, and I feel that their relationship to the human economy is but imperfectly known. We know that there is a bond of some extent between these glands, through the sympathetic nervous system and the lymphatics, but is there not some bond existing which has control over the power whereby one gland assumes a function laid down by another? Does such a power exist in the human organism, or is the function, once destroyed, lost forever? Does the organism adjust itself to the loss of an organ through other organs, or does it live without this function being restored? There seems to be a close relationship between the pancreas and the central nervous system also, for microscopic examinations of the tissues of the pons, medulla and cerebrum in some cases of pancreatic disease, show colloid degeneration. "In diagnosticating affections of the pancreas, special stress should be laid upon incomplete digestion of fat and starches and the existence of diabetes and fatty stools, and for this reason the feces and urine are to be carefully examined. The urine also contains fat in some cases[1]." It is, therefore, essential to make a very careful examination of the feces and urine, in these cases in which we are undecided, as to diagnosis of pancreatic diseases.

Cyst.—Cystic degeneration seems to be the most common disease of the pancreas. One reason for this is because of the more conspicuous signs and symptoms present, making an early diagnosis of this condition easier, while other cases go unrecognized. The history of a case sometimes gives us an insight into the diagnosis, for in the majority of cases of cyst, injury is given as the cause. In the reaction following an injury to any tissue there is always swelling and congestion in the parts injured. Following contusion of the pancreas, therefore, we would expect these effects to follow and we have the essential conditions present for a cystic formation, viz., a closure of the duct, with retention of the secretions. The injury may be severe enough to set up permanent changes, and through cicatrical contracture we get partial or total closure of the duct and the cyst becomes evident, by an increasing sized tumor. Cancer, calculi and abscess may all act as obstructions.

The diagnosis of cyst is not always an easy matter, and the statement is made that it has been correctly made in a minority of cases. The lack of all symptoms of local or general inflammation, its fluctuating character and its position, in the region of the pancreas, behind the stomach, are its chief diagnostic points. Some very high authorities advocate tapping through the abdominal wall with an exploratory needle, withdrawal of contents and examination, chemically and microscopically. The question arises, is this a safe procedure? Being a retroperitoneal organ, and lying, as it does, behind the colon and stomach, a surgeon certainly adds danger to an already dangerous condition, for he runs a risk of puncturing either of these overlying organs, and is very apt to infect the peritoneum. Cyst of the pancreas must be diagnosed from ovarian cyst, hydrops of the gall-bladder, hydronephrosis, hemorrhagic effusion, etc. I can not take time in this paper to give the points of differential diagnosis, nor to even mention all of the diseases of the pancreas, but I call attention to the inflation of the colon as a valuable procedure in arriving at a diagnosis. "This is done by means of air, hydrogen or carbonic acid gas. In tumors of the pancreas, kidneys and spleen, or in aneurysms, the inflated colon comes between them and the abdominal wall." "Tumors of the ovaries and the uterus enlarge from below upward, push the intestines to one side and are not covered with them[2]." In summing up this disease the following conclusions have been arrived at: 1. That contusions of the upper part of the abdomen may be followed by the development of a tumor in the epigastric, umbilical and left hypochondriac region. 2. That such tumors may be due to fluid accumulations in the lesser peritoneal cavity. 3. That when the contents of such tumors are found to have the property of rapidly converting starch into sugar, we may assume that the pancreas has been injured. 4. That many such tumors have been regarded as true retention cysts of the pancreas and that this opinion has been formed upon insufficient evidence[3].

Hemorrhage.—Hemorrhages are divided into three classes. The most common form is passive hemorrhage, as a result of diseases of the heart, lungs or liver. The second class comprises those rare cases resulting from rupture of a large blood-vessel, due to some change in the vessel wall. The third class constitutes those cases in which the whole organ becomes hemorrhagic, the blood infiltrating the interstitial tissues, after which disintegration of the whole organ occurs. "The first form of hemorrhage is unattended by special symptoms. In the second a pulsating tumor may suddenly appear in the epigastrium and the ordinary indications of hemorrhage, viz., vomiting, fainting fits, cold extremities, feeble pulse, and general exhaustion, are present. Death may occur suddenly or the patient may linger for months. In the third condition death usually occurs very suddenly, probably from pressure on the sympathetic ganglia. There are no symptoms and the rapid termination prevents the development of general peritonitis, which would otherwise occur from the sloughing of the peritoneum. There are no indications for treatment[4]."

Acute Suppuration.—Next to acute hemorrhage, the most rapidly fatal disease of this organ is acute suppuration. Pain may be sudden and severe, nausea and vomiting as a rule persistent, fecal vomiting occurs in a large number of cases, tenderness more or less constant, great prostration, pulse rapid and weak, temperature may be normal, subnormal or but slightly elevated, constipation and tympany generally present, tumor rare, jaundice may or may not develop. The septic infection arises through traumatisms, ulcers of the intestines, stomach, or bile tract, from peripancreatic abscesses, or it may take place, primarily, through the blood or lymph channels. In exceptionally rare cases it runs into a chronic condition. Nature is very kind and may protect herself, if she has time enough, to build up a wall. The offending material may be discharged through the bowel or stomach and recovery take place. In most cases the microbic invasion is so rapid that Nature is overpowered and death is the result. In other cases, abscesses have formed in the lumbar region and recovery has been brought about by simple incision and drainage. This condition must be diagnosed from intestinal obstruction, abscess of the liver, gangrenous cholecystitis, empyema of gall-bladder, perforative ulcer of stomach or bowel. The following case, which came under my observation while on the house staff of St. Elizabeth Hospital, Chicago, serves as a type of this disease. It has already been placed on record, as I presented the history of the case and showed a specimen of the omentum, presenting fat

*Read before the Illinois State Medical Society, Cairo, May 16, 1899.

necrosis, before the Chicago Pathological Society in 1896.

Mrs. F., aged 26, Irish, housewife, was admitted to St. Elizabeth Hospital, Oct. 26, 1896, as a private patient; family history negative; mother of two children, one miscarriage; has always been well up to two years ago, when she had pain in the epigastrium, with slight icterus, but made good recovery. Since that time she has had three or four such attacks. Her present history is of five weeks' standing. She was taken with pain in the region of the gall-bladder, nausea, vomiting and fever. These symptoms continued more or less severely for three weeks, and then gradually abated under treatment. For the next ten days she was considerably better, but five days ago was taken with the former symptoms.

She was admitted to the Hospital for an operation, a probable diagnosis of gall-stones having been made. On admittance her condition was found to be as follows: Able to walk, restless, face flushed, hurried respiration, pulse 114, temperature 100.4, pain in epigastrium, nausea and vomiting, tongue slightly coated, tenderness over abdomen, rapid heart action and pulsations strong, constipated and urine scant; liver, lungs and spleen normal. Urinalysis showed biliary coloring matter and one-fifth by bulk, of albumin. Postponement of the operation was advised by her physician. Medicines to relieve her incessant vomiting were in vain, and anything taken into the stomach was immediately rejected. Her condition remained about the same for the next two days. The urine became more scant and enemas did not relieve the bowels. October 28: Voided but sixteen ounces of urine the previous twenty-four hours; more restless and anxious looking; seemed weaker; slight fecal movement; vomiting still continued, and temperature was the same as on admittance. October 29: Heart weaker; fecal vomiting; previous symptoms unabated; semidelirious and extremely restless; at 7 p. m. she passed into coma, and died at 11 p.m.

Post-mortem.—The autopsy was held by Dr. E. R. Lecount, attending pathologist, assisted by the writer, and it showed an intensely interesting state of affairs. A brief synopsis of the findings is as follows: The heart and lungs were normal to a casual examination, the spleen small, the gall-bladder small and contracted from connective-tissue bands in the walls, gall-stones numerous, acute parenchymatous nephritis in both kidneys; the body and tail of the pancreas consisted simply of shreds of necrotic tissue, extending across and lying free in a cavity, possessing for walls, the stomach, retroperitoneal, and perirenal adipose tissue, the transverse mesentery, duodenum, and tissue of lesser omental cavity, as well as some loops of small intestines and colon. The walls of this cavity were necrotic, dark gray and slaty in color. The cavity communicated with the stomach and bowels through perforations, and contained fecal matter. The head of the pancreas was the least involved. We found disseminated fat necrosis throughout the omentum, mesentery and fatty tissue. This necrosis of Balsar may be found in the interlobular pancreatic tissue and in the abdominal fatty tissue generally. It consists of small, opaque, yellowish white spots, from pinhead-size to that of a split pea, distributed more or less thickly throughout the tissues involved. In this case these areas could be plainly seen in the omentum, when held up to the light. I examined the contents of these areas under the microscope, and fat crystals were easily visible.

Primary cancer of this organ is a most insidious disease, developing gradually and without much pain. The patients are usually past middle life. Temperature is generally subnormal, and the patients may, later in the disease, have a tumor, and like cancer of any part of the body, may have cachexia and emaciation. It is accompanied by various digestive disturbances, liver small and hard; jaundice sets in gradually and once present never disappears. With the accumulation of bile in the gall-bladder, a tumor can oftentimes be made out and might lead one to a diagnosis of cholelithiasis; therefore, if we have a case presenting jaundice, with or without pain or a tumor in a person past middle life, and it can not be relieved by active medication in a few days, operate. One diagnostic point is this: Cancer of the pancreas nearly always produces jaundice, because of the frequency with which the head is involved, while cancer of the liver rarely does, for its growth generally occurs in parts of the liver distant from the gall-duct.

It is only within the past few years that any systematic effort at investigating the surgery of this organ has been attempted. Billroth, Kocher, Gould and others have placed cases of interest on record, but much of the honor of placing surgery of the pancreas on a solid footing belongs to Senn. He has made extensive experimental investigations, and has collected illustrative cases and placed them on record. Although the results of laparotomy so far have not been encouraging, I think it apparent that only through an early diagnosis and operative procedure can we hope to decrease the large percentage of mortality from diseases of this organ. Several cases are on record in which the pancreas has been removed entire, and its function apparently taken up by other organs, however, in some cases, more or less imperfectly, for glycosuria has been noted. There are some authors who claim that total extirpation of the pancreas is invariably followed by diabetes, and probably an equal number deny this, but it is true nevertheless, that in a majority of cases this operation is followed by glycosuria. Complete removal may easily prove fatal, so it should be avoided if possible. I advocate an exploratory incision and after a thorough investigation, a decision can be reached as to the best method of procedure. With our advanced knowledge of antiseptics and improved methods of operating we certainly are justifiable in making an exploratory incision for diagnosis. If an obstruction should be present from gall-stones, stricture and the like, we are in a position to remedy it. If found to be cancer, an operation may be indicated, depending on the involvement. Should our examination reveal a cyst or abscess wthout involvement of the peritoneum, then a posterior incision below the twelfth rib should be made, the tumor pushed backward, incised and drained and the anterior incision closed. I favor this route, because: 1. It permits of better drainage. 2. We run no risk of infecting the peritoneal cavity with the tumor contents. 3. "The permanent adhesion of the left end of the pancreas to the abdominal wall, in this situation, is less likely to lead to subsequent mischief than is an anterior adhesion between the stomach and transverse colon[5]." The cure of cancer of the breast by the administration of thyroid extracts is reported and we know of the favorable results in other diseases from its use. We know, also, of favorable results from the administration of extracts and secretions of other glands. If, as I have suggested, there is a peculiar relationship existing between all glands, is it unreasonable to expect that in diseases of the pancreas or other glands, we might not have a beneficial effect by giving the combined extracts or secretions from all the glands?

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MEDICINE.

ITS PROGRESS, PROBLEMS, AND PROSPECTS.*

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(Concluded from Page 591.)

Etiology thus becomes of prime importance and gives to us many problems for future solution. For example, can a micro-organism, under different circumstances, produce different diseases and the variations in the virulence of different epidemics? We know that micro-organisms are greatly influenced and modified, in form and activity, according to their food-supply, temperature, moisture, the presence of oxygen, light and other organisms. Can not the same germ have the conditions of its development so changed by environment as to undergo progressive modifications sufficient to account for the variations in the virulence of different epidemics, and to produce various symptoms and diseases? Does not the pneumococcus, when subject to different environments, produce numerous infectious processes, such as pneumonia, pleurisy, endocarditis, pericarditis, peritonitis, cerebrospinal meningitis, arthritis, and general septicemia? May not the same specific cause give rise to different diseases in different patients? Can the same micro-organism produce erysipelas in one person, and puerperal fever in another? Are all infectious diseases due to individual or specific germs and their modification by environment, or are most infectious diseases due to a combination of germs and of circumstances? Can a disease like croupous pneumonia or diphtheria be the result of two or more micro-organisms acting alone or in combination? Is pneumonia, cystitis, meningitis, hepatitis, tonsillitis, carditis, gastritis, nephritis or enteritis always the same in kind, or are there many kinds of these diseases, corresponding to the combination of germs and circumstances present? Do suppuration, erysiplas, septicemia, pyemia and pneumonia depend upon their own specific germs, or are they produced by various germs, or a mixed infection? If numerous microbes can, and do, develop in the same organ at the same time, is not their resultant effect often responsible for the varieties of diseased conditions? Are the symptoms at the beginning and termination of a microbial disease always due to the same kind of germs? Why is it that various organisms may produce the same pathologic, anatomical and clinical symptoms? Why does not a specific bacterium always produce the same effects—the same symptomatology and pathologic phenomena? For example, why is it, as Mikulicz tells us, that "all forms of peritonitis run the same clinical course, regardless of the bacteria that cause it?" May we not have phthisis pulmonalis without the presence of the tubercle bacillus, and with streptothrix instead? Can not pneumonia be produced by the tubercle bacillus and also by the microbes of diphtheria, typhoid fever, anthrax, erysipelas and influenza? Is not epidemic cerebrospinal meningitis often due to a variety of organisms, such as the meningococcus, pneumococcus, streptococcus, tubercle bacilli, anthrax and typhoid germs? May mumps, orchitis, meningitis, pleurisy, goiter, hepatitis and melancholia be due to typhoid infections, and may not other things than typhoid germs give rise to typhoid symptoms while typhoid germs may give rise to other than typhoid symptoms? Are the meningococcus and the gonococcus identical organisms, or are they only closely related? As there is no individual germ peculiar to each disease; as environment modifies the nutritive and reproductive activities of germs, thus causing a great diversity in their virulence, and in the symptoms and diseases they produce, as many germs in combination may produce a given disease, and as many diseases may be produced by a variety of germs, it follows that the problems in etiology are the most difficult. In fact, in every department of medicine the problems that confront us are very numerous.

There are many problems in tuberculosis. Why do dogs, goats, rats, white mice, and all cold-blooded animals, possess immunity, while cats, rabbits, field mice, pigs and fowls are susceptible? Why is tuberculosis common in cattle, and rare in sheep and horses? Why are rabbits and guinea-pigs very susceptible to inoculation and yet rarely have tuberculosis; and why do apes and monkeys contract tuberculosis so readily in confinement and never in their native wilds? On the contrary, the wild Indian is very prone to consumption, even when occupying one of the finest climates in the world. The death-rate among them is about twice that of the white race. Why is an Indian, who lives an outdoor life, in a beautiful climate and free from the effeminating effects of civilization, more prone to consumption than his white brother? Why is the negro, in this country and the West Indies, more prone to this disease than in Africa; and why are the Jews far less susceptible than any other race? If tuberculosis can not be directly transmitted, can not the virus be transmitted that gives rise to infantile tuberculosis, or is this always the result of infection? Is not congenital tuberculosis more common than we imagine? What is the peculiar character of the tissue-soil that allows the seeds or germs of tuberculosis to develop? All weak and delicate people are not predisposed to consumption. Lowered vitality does not always favor infection. Is tissue-resistance, therefore, always greatest in those of the greatest vitality or physical strength? It is said that immunity depends on tissue-resistance, and that tissue-resistance depends largely on healthy tissues and favoring circumstances. It is also known that tissue-resistance may be inherited or acquired, independent of strong vitality. A sick infant can resist some germs better than a strong man, and some people are easily inoculated or infected, others not. Do the bacilli of tuberculosis, or their products induce suppuration or is this due to a mixed infection? Is the virus which produces scrofula, tuberculous adenitis, or tuberculosis of the lymph-glands, the same as the virus that produces tuberculosis in other parts of the body? Does it differ in kind, or is it only milder in form? Why do measles, whooping-cough and diabetes so strongly predispose to tuberculosis? Why are the lungs most susceptible in adults, and the lymph-glands in children? Why does scrofula in childhood furnish a partial immunity to tuberculosis in adult life? Is pneumonia, resulting from tuberculosis, due to the tubercle bacillus and its toxins, or is it due to secondary infection with other germs? Is secondary infection frequent? Are the cavities in the lungs produced by the tubercle bacilli, or are the pus-germs—the streptococcus, etc.—responsible for all cavities? Why does a free incision into a tuberculous tissue so often set up healthy action in the parts? For example, why does an abdominal incision often cure peritoneal tuberculosis, or an incision into tubercular bones and joints so often have a curative effect? Why does suppuration at once cease, when we open an abscess antiseptically, although pyogenic organisms are present in vast numbers? Why do tubercle bacilli sometimes cause tuberculous tissue, sometimes a

* Read before the Mercer County (N. J.) Medical Society, at its Fiftieth Anniversary, May 23, 1898, and subsequently revised.

cheesy mass, and sometimes a chronic abscess? Is the bovine tubercle bacillus identical with the tubercle bacillus of man? Theobold Smith has shown that these bacilli are not identical, and casts discredit upon the opinion that tuberculosis can be spread from dairy products, while Dr. Busch believes that "all the tuberculosis affecting the human race comes from the dairy cow." Obermuller finds Koch's bacilli in butter, while Rabinowitsch fails to find any. Is a large percentage of infant tuberculosis due to milk infected by the tubercle bacilli, or its toxins? Many believe that most milk is filled with tubercle bacilli, and, regarding the infant stomach as a germ incubator instead of a sterilizing chamber, they sterilize and pasteurize the milk, and thus impair digestion and nutrition. Is consumption of vegetable origin, and is the bacillus a vegetable parasite and to be found on certain grasses, as affirmed by M. Moeller and Robinovitch? Can artificial immunity to the tubercle bacillus be produced by inoculating with the tubercle bacilli in the early stages of tuberculosis, before the vital forces have been reduced by the disease?

It is estimated that there are over 150,000 deaths annually from consumption, and that about one in every sixty is infected, nevertheless Parker of London tells us that the mortality for consumption has diminished 46 per cent. As the germs of tuberculosis are so widely disseminated—revealing their presence in about one-half of all cases of autopsy, from whatever cause, and thus showing that possibly the majority of mankind are infected, although in only a minority is the germ able to overcome vital resistance and produce fatal effects—does it not follow that mankind should, in the course of time, acquire a partial, or a total immunity to this disease? Should not better sanitation, better hygienic laws, and acquired immunity, eventually stamp out this terrible disease? In India there is an acquired immunity to cholera, which in this country is very deadly. Measles have almost depopulated the Pacific Islands, but here it is mild. Wherever a disease has been long prevalent there seems to be eventually developed an acquired immunity. Landerer declares that cinnamic acid "cures all cases in the early stages, and many others." Murphy of Chicago claims to have secured excellent results by compression of the lungs by nitrogen gas, and others, with the serum and climatic treatment, claim excellent results; but is not the decrease of the death-rate from tuberculosis due far more to improvement in sanitation and gradually acquired immunity than to all medical treatments combined?

We will next briefly consider some of the problems in diphtheria and typhoid fever. The true bacillus of diphtheria can only be identified by its cultural peculiarities and its pathogenic activity. Being irregular in outline, especially in cultures, and closely resembling other organisms found in the mouth, particularly in those having decayed teeth, mistakes are easily made, when only a microscopic examination is made. We can not always, from the form of a bacillus, determine the class to which it belongs, for its form depends largely on the nature of its environment, or the media employed in its development. There have been found bacilli identical in form to the bacilli of true diphtheria, and yet these were harmless when inoculated. Why does the bacillus of diphtheria sometimes entirely or partially lose its virulence and become incapable of producing death? Does it lose its virulence as the disease progresses toward recovery, and is this difference in virulence due to difference in species, or difference in circumstances or environment? We do not know why the bacillus of diphtheria may be harmless at one time, cause true diphtheria at another, or membranous rhinitis at still another. The New York Board of Health found the germ of diphtheria present in 80 per cent. of the reported cases of membranous croup. Is membranous croup, therefore, simply laryngeal diphtheria?

Why is it that susceptibility to the typhoid bacillus can be artificially induced in the lower animals, that are scarcely susceptible to this germ, by the injection of the products of certain saprophytes? Alessi tells us that rats, guinea-pigs, and rabbits, when compelled to inhale the emanations from decomposing products in cess-pools become susceptible to typhoid infection. Is resistance to the typhoid bacillus weakened by the toxic action of the saprophytes? If not, what are the things, or conditions, that diminish natural resistance to infection in the various zymotic diseases? Why are enteric lesions present in some cases and absent in others, although infection may have taken place through the intestine in both cases? Why may typhoid infection at one time produce a septicemia—a severe intoxication—without local manifestations, and at another time attack, either alone or in combination, various organs, such as the lungs, kidneys, spleen, or cerebrospinal meninges, without affecting the intestines? Does the effect of the typhoid germ predispose to a mixed infection, and is this not responsible for many of the symptoms that are present in typhoid? Is the bacillus coli communis, of which, according to Rahlff, there are sixty-two different kinds, capable of becoming pathogenic and producing typhoid symptoms? As it is now known that the urine of typhoid cases may contain the germs for many months, is not the public health greatly endangered by this fact, and should not the urine be disinfected as a sanitary precaution, while any germs remain in the system?

Much yet remains to be known of the life and internal structure of bacteria. As by nature, they are usually colorless, it is quite probable that they are greatly altered in structure by the staining process. At present our text-books teach that the bacterium is devoid of a nucleus, still Gruber, Klebs, Nussbaum, Balbini, and others have shown that "the nucleus is an element essential to the life of the cell," or is the "focal seat of life in all its forms." Butschili believes that the bacterium consists almost entirely of a nucleus. From this we observe that much still remains to be known about the structure of the bacteria.

There still remain many problems in infection, immunity, etc. We have yet to learn how infection may lead to structural complications, and how normal bacteria become abnormal in growth and character. We know that healthy tissues resist microbe attacks, while enfeebled tissues are predisposed to microbic action. The want of vital energy or defective nutrition makes the tissues a receptive soil for bacilli and causes infection. Infection depends largely upon the pathogenic power of the germ, and upon the amount of cell resistance. The condition of the vital forces, therefore, largely decides the action or effect of the germ. For example, a person of strong constitution, and in good health, can meet disease on a war footing, and nine times out of ten repulse it. It is said that "the microbe trembles when he sees a body cheerful and at ease."

It would seem, therefore, that immunity was due to increased vital force; but such is not the fact in all cases. The very nature of immunity is still an unsolved riddle, for no general or satisfactory law of immunity has as yet been formulated. For example, why are infectious diseases mild in some cases and virulent in others, and why

are the warm-blooded animals immune to most of these diseases? Why are children immune to certain diseases of adult life, and adults immune to certain diseases of childhood? Why is natural immunity peculiar to some species, races, or individuals? We know that artificial immunity is secured by attacks of disease ending in recovery, by vaccination, by treatment with sterilized cultures of germs, and by treating a susceptible animal with the blood-serum of immune animals, but we do not know how the immunizing effect is produced. Are artificial immunity and the cure of infectious diseases due to the combination of enzymes with organic albuminoids? Ehrlich believes that the specific diseases, caused by toxins, are produced in those individuals whose living cells or tissue possess a substance which has a chemical affinity for the toxin, and when this substance passes from the tissues into the blood, it becomes a protecting and curing substance. Buchner says that immunity is caused by "reactive changes" in the fixed tissue cells, after which they are not again susceptible to the action of the same organisms. There seems to be a retention of some bacterial products in the tissues. Others attribute immunity to phagocytosis; to the germicidal powers of the blood-serum; to the bactericidal properties of the proteids; to the exhaustion of the pabulum by the germs. Metschnikoff claims that immunity is due to phagocytosis. Dr. William Carter, in 1893, showed that normal blood-serum is a powerful and active therapeutic force, with globulicidal and germicidal properties. Vaughn, Hankin, and others, believe that the nuclein in the blood, which is derived from the white corpuscles, has decided germicidal and immunizing properties. Others believe that the first attack of an infectious disease exhausts the pabulum or nourishment in the blood or tissues on which the germ feeds; or produces such cellular, or chemical changes that the germs die, and the disease terminates. This pabulum having once been exhausted, and the cells of the organisms having adapted themselves to this change, or been modified by it, is the supposed cause of future immunity. Vaccination, with a migrated virus, seems to habituate the phagocytes, or tissue cells, to the poison, and thus produce immunity; but according to the recent reports of the British Royal Commission, protection is relative, not absolute; temporary, not permanent. How sterilized cultures of germs and antitoxins produce immunity we do not know. The antitoxins seem to be secreted by the cells of the organism, and to combat the toxins secreted by the germs. Whether the antitoxic serum acts biologically or chemically we do not know. It may stimulate cellular resistance, or it may act chemically by checking germ growth or by neutralizing their action on the toxin. According to Behring and Kitasato the antitoxins aid the tissue-cells in resisting the action of the germs and its poison, and do not neutralize or destroy them. The germs that produce alcoholic fermentation give rise to chemical products, which ultimately check fermentation. Is self-limitation, in certain diseases, due to chemical products that have been produced by the germs of the disease? Disease is not limited by any period of the life history of the germ, for with suitable pabulum and proper conditions, germs will multiply and reproduce themselves indefinitely. Is self-limitation to disease due, therefore, to exhaustion of the elements on which the germs feed, to modification of the tissues, or to chemical products? In some infectious diseases, like diphtheria, erysipelas and tetanus, the germs may develop in only a small portion of the body—hence, the nourishment for the germs has not been exhausted, and one attack does not immunize against another. There is a distinction, therefore, between self-limitation and immunity. Why is it that in some infectious diseases, like scarlatina, typhoid fever, smallpox, and measles, there is self-limitation and immunity to subsequent attacks, while in others, like pneumonia, erysipelas, and diphtheria there is self-limitation, but practically no immunity? How can we produce artificial immunity to diseases where the natural processes of disease do not afford immunity? For example, tuberculosis, in its natural process, does not seem to furnish the agents for self-limitation or immunity—hence how can we ever establish these artificially, except possibly by injecting antagonistic germs, or the serum of animals naturally immune, or by some other process yet undiscovered? As one disease may prevent the contraction of another by means of the antagonism of germs, it may be possible by injecting antagonistic germs to cure many diseases, as anthrax is cured by injecting the micrococcus prodigiosis. Natural immunity seems to be due to the condition of the blood. Can we, therefore, transfuse the nature of an immune animal, by blood transfusion, to the individual? A greater and more accurate knowledge of the cause, or causes of immunity, will enable us the better to secure artificial immunity. When we know how the tissues themselves combat infection, we may be able to aid them in their work. When we know more about the chemical and physical changes that go on in the cells during elimination and absorption, we will have far greater powers of combating disease. Along this line many great discoveries still undoubtedly await us. If the germ products that cause toxic symptoms also cause self-limitation and immunity by isolating the various chemical elements produced by the germs, could we not ascertain which of the chemical elements produce the harm, which self-limitation, and which immunity? If we could ascertain this, we might then secure from artificial cultures, or the serum, only the immunizing elements, and thus ascertain the relative merits of the chemical product, and the living virus. We know but little about immunity, and there remains much to be learned about the biochemistry, the poison, etc., of micro-organisms, and their products.

We do not know why it is that in people of apparent health we so often find the diphtheria bacilli in the throat, the pneumococci in the blood; the tubercle bacilli in the lungs, and many other pathogenic species almost constantly distributed throughout the organism, without producing disease. Montesano tells us that the tetanus bacilli and toxin have been found in large numbers in the nerve-centers, without producing their characteristic lethal affects. It appears that microbes, per se, are usually inoffensive. It is the condition of the germ, aided by physical condition that makes it virulent rather than the germ itself. Even the so-called pathogenic bacteria are not always guilty of homicidal intent. The diphtheria, typhoid, cholera and other pathogenic bacilli are widely spread in nature, are almost universal, but it is only when they become diseased or virulent that they become dangerous. What causes the diseased or virulent condition of the germ, or what makes them at one time pathogenic, and at another time not, we do not know. The contact of the germ with an organism of lowered vitality seems to cause the germ to become pathogenic or diseased. The virulence of a germ depends upon its nutritive and reproductive activities, and these are greatly increased when the germ is developed in a highly susceptible individual, and usually diminished when the germ is artificially cultivated. While in a patho-

genic condition it seems to secrete, or excrete, poisonous products which are most harmful to the organisms. How to prevent germs, therefore, from becoming virulent is one of the problems that now confront bacteriologists. We must more thoroughly understand the natural history of bacteria. We must study them individually and not in groups. When we more fully understand the structure and life history of the pathogenic bacteria we will undoubtedly be able to prevent bacteria from becoming pathogenic. Then antisepsis and serum-therapy will have vanished and become a landmark of the past. As we, through observation and research, more and more understand the objects and forces of nature, we will preside over them, while fate and limitation recede into the dim past. We will then, possibly, be able to convert the parasites—the degenerates of microbian society—to a better mode of life, and of activity, and we will more thoroughly understand and appreciate the beneficial effects of the saprophytes. We observe, therefore, that microbes have power for good or for evil, the same as all forces in nature. The good may become bad, and the bad may become good. How to civilize and Christianize the microbes so that they become harmless, if not beneficial, to humanity is a problem for the future. Many microbes are benefactors to humanity, and when rightly understood and managed, they become our friends, and life itself depends largely upon them. Schulze, Schwann, Pasteur, and many others believed that the fermentation that gives rise to bread, vinegar, wine, beer, etc., was due to micro-organisms. Recently Professor Buchner has declared that "fermentation is not a physiologic process, but is caused by the substance called zymose," which is a chemical product of the growth of yeast-cells. Most germ diseases are caused by the poisons generated by the cells. Is it not most probable, therefore, that fermentation is due to yeast juice rather than to yeast-cells. Some germs convert starch into cellulose, and some germs in the soil greatly aid plant life by forming nitrous and nitric acid, ammonia and phosphorus. Some color milk blue, and others transform the white snow of the Alps into scarlet. The phosphoresence of sea water is due to microbes. Many colors, aromas and flavors, are due to bacteria, as in butter and cheese. Dr. Johann Olsen of Norway; by bacteriologic methods, has produced the various textures and flavors of the different varieties of cheese. Certain microbes and combinations of microbes produce certain flavors. With the microbe corresponding to the flavor desired he inoculated a sterilized cheese, and thus secured the texture and flavor desired. Kahn has made a science out of butter making, and Hansen produces the various kinds of beer from various yeasts of his own production. Many industrial processes depend for their success on bacterial fermentation. Alzares has discovered a bacillus that "converts a sterilized decoction of indigo plant into indigo sugar and indigo white," the latter then oxidizing to form the valuable blue-dye. The proper preparation of tobacco leaves and of tea depends on the right amount of fermentation—the same is true of ensilage. Flax and hemp are steeped in a water containing a certain bacteria, which so acts on the plant as to aid in separating the choicest fibers. Bacteria also aid in the tanning process, and are in many ways useful in the arts. We observe, therefore, that although bacteria are essential factors in many diseases, they nevertheless are for the most part harmless, and may render a beneficent and important service to mankind. They are highly useful as scavengers and ferments, and do much toward keeping the world sweet and clean. Kijanizin, of the University of Kieff, says that many kinds of intestinal bacteria, by acting as ferments, aid digestion. They decompose and peptonize the nitrogenous matter, and thus aid in the absorption of food. From Schottelin's experiments upon chickens it appears that microbes are, at an early period of life, essential to digestion, and at a later period an aid to digestion. It is also true that other intestinal bacteria cause disorders of digestion, by causing decomposition of food, and the production of various poisonous substances, which irritate the stomach, poison the system, and give rise to numerous symptoms. Some microbes are poisoners, murderers, vandals, and even incendiaries. According to M. Jean de Loverdo, there are incendiary microbes—the thermophiles—which are responsible for the so-called cases of spontaneous combustion. Microbes are thus beneficial and harmful, useful and useless. It is the problem of the future to ascertain the exact structure, composition and nature of microbes, so as to convert them to the highest use. The pathogenic microbic savages, with homicidal intent, must have their environments and nature modified or changed, so as to become harmless if not beneficent.

The microbe, it is true, is a great factor in evolution, and more thoroughly respects the doctrine of the survival of the fittest than any other agency or cause. It selects the weak and unfit, and as it is not in harmony or sympathy with altruistic sentiments, it usually destroys them. The simplest form of living matters—the cell, microbe, or micro-organism—is endowed, we are told, with psychic life. Can we, therefore, bring psychical influences to bear upon micro-organisms, so as to modify their nature, and make them more humane and altruistic in their sentiments toward humanity. This suggestion may seem like pleasantry, and is undoubtedly impracticable, still Bunge, Gruber, Verworn, Moebius, Balbiani, Binet and others, believe that in both vegetable and animal organisms, we find manifestations of an intelligence which greatly transcends the phenomena of cellular irritability. They believe that "psychologic life begins with living protoplasm," for the phenomena of life obey much more complicated laws than any merely physico-chemical phenomena, or phenomena due to cellular irritability. Life emanates but from one source, and wherever there is life there is design, intelligence, the power of choice, and other psychic manifestations. "The same desires," says Montaigne, "stir mite and elephant alike. The psychic life of the bee is as complex as that of the whale." The varied movements, caprices, and frolics of micro-organisms, their selection, and method of seizing and appropriating food, all indicate psychic faculties. According to Ehrenberg, Pouchet, Kunstler, Lachmann, and others, some micro-organisms possess organs of sight, hearing, and of touch, and manifest surprise and fear. Some micro-organisms are herbivorous, and others carnivorous. There is not only selection of the food, but there is sexual selection. We observe, therefore, that all psychic and vital phenomena are present in micro-organisms; but if such were not the case, we would have to assume that they were "superadded in the course of evolution, in proportion as an organism grows more perfect and complex." All life originates from a minute point of matter called a cell. Human life first starts from the union of a sperm-cell with a germ-cell. These cells live as minute organisms, independent of the individual from which they originate. They possess vitality and psychic life. The sperm-cell, or spermatozoid, has organs of locomotion, and in obedience to a kind of innate instinct that is intelligent and volitional, it seeks the ovule, and accord-

ing to Binet "is animated by the same sexual instincts that direct the parent organism toward its female." The ovule throws out a minute protuberance, called the cone of attraction, on which the head of the spermatozoid fastens itself, and is then drawn into the interior of the ovule, and by the union or fusion a more complicated cell is formed which begins that strange process of evolution, or development, by which cell is added to cell, and part to part, until a most wonderful and complex organism is produced. If the sperm-cell does not possess psychic life how could a father transmit his form, features, disposition and peculiarities to his child? The same is true also of the germ-cell, which represents the psychic life of the mother. Is it not plain, therefore, that psychic life can and does exist in a single cell or micro-organism? The whole possibilities of man—his form, features, and every faculty and endowment—exist as a latent potential in the original germ. A study of the life, habits, and peculiarities of the individual germ, its psychic life, may lead us to discover the cause of its virulence or pathogenic condition and enable us to convert a bad germ into a good one, or a useless into a useful one. In this age of psychic research, may this not be a problem for the future? Dr. Baraduc of France claims to have succeeded in photographing certain emanations from the human body, and of having caught the human soul itself on his sensitive plates. At Munich he exhibited no less than four hundred photographs of this kind. He also claims to have secured "photographs of familiar spirits, and the like," and in the near future will undoubtedly discover the shape of an odor, the length of an emotion, and the color of thought. When all this is accomplished, some psychologic genius may be able to hold communion with the lower organisms, and interpret aright their psychic life. If there is to be progress and new discoveries in the future, there must be, as in the past, scientific daring and the spirit of adventure. This spirit of inquiry, research and daring has given us in the last ten years many new and sensational discoveries in mechanics and physics, such as the modern bicycle, horseless carriages, electric railways, polyphase currents, the Laval steam-turbine, the interior combustion motor, calcium carbid, the cinematograph, the Roentgen rays, liquid air, hydrogen and other gases, color-photography, wireless telegraphy, cold light, high-frequency currents, etc. There seems to be no limit to future possibilities; hence the prospect for the future is the brightest. The skiagraph may foreshadow the invention of a dolor-meter to measure the amount of pain, and other similar inventions. We may then have some delicate instruments to measure thought and emotion. We may then use liquid air to furnish pure air for our hospitals; to reduce the temperature in fever wards in the tropics. We may then convert bacteria to some useful purpose. M. P. Melmikoff has already constructed an engine which depends for its motive power upon the fermentation of bacteria and the presence of the gas generated. In the future we may regulate sex by the quality and quantity of the food digested. In the future, hypnotism and all forms of occultism will be less mysterious and more useful. Scientific investigation has done much to clear hypnotism of its mysticism, and the explanation of the duality of mind has given to hypnotic suggestion a therapeutic application. Through physical and psychic research all forms of occultism are being placed on a more rational basis, and in the future the relation of mind and body will be more thoroughly understood.

At the present time it is believed that the germs of certain diseases are too small to be revealed by even the compound microscope, with the best immersion objective—for any germ much smaller than the influenza bacillus could not be recognized by the microscope. An improvement in our microscopes might reveal to us the germs of all our infectious diseases, and teach us the true etiologic importance of germs, as a factor in disease. The limitations of the microscope may prevent us from ascertaining many mysteries that reside in the living cell and germ. Can we ever so increase the powers of the microscope as to determine the mysteries of life and the secrets of death? Will we not, in the future, so strengthen the cell that it can withstand the invasion of pathogenic bacteria? A greater knowledge of the pabulum on which bacteria feed may cause such an improvement in the living culture-media as to enable us to cultivate the pathogenic bacteria, and to isolate and study them more effectively. The normal blood-serum, especially in the naturally immune, holds in solution chemical substances or specific antitoxins, which are manufactured by the cells of the organisms. In the future the art of serum-therapeutics will be to obtain this immunizing product. Possibly chemistry may yet discover the antidote for the poisons generated within the human system—some drug that is innocuous to the patient and destructive to the germ. It is highly probable that in the near future the effective serums and antitoxins may ultimately banish infection. With a fuller knowledge of natural and acquired immunity we will undoubtedly be able to prevent all contagious diseases, as we are now able to prevent a few by inoculation. "By a process of vaccination or immunization it may soon be possible," says Pasteur, "for man to eradicate every contagious disease from off the face of the earth." At present, therefore, clinical medicine should seek protection from all toxic agents, and immunity from diseases. May we not, in the future, so understand the secrets of life and the cause of disease as to secure to each individual a limited immortality? Then the patient may beseech the doctor to let him die instead of keeping him so long in this vale of tears. We will then quarantine the mosquitoes and flies so that they will not spread disease. The scientific spirit will eventually overcome the commercial and mercenary spirit of the age, which foists upon us germ juices and specifics *ad nauseam*, and the mad rush after every fad and fancy, every novelty, will cease. Commercial houses will no longer lord it over the medical profession. They will supply the demand, and no longer create it. Honest seekers after truth, observers, experimenters, will then advance the science of medicine. There will then be less credulity and more judgment, and the bewildering and disgusting multiplications of so-called remedies, which like the Dutchman's razor, are made to sell, will no longer depend upon the testimonials of the credulous and ignorant. Dr. Elmer Lee says that "in some future day it is certain that drugs and chemicals will form no part of a scientific therapy." No one will then enter the medical profession except from a pure love of humanity, a love of science, and self-abnegation. The medical prospects for the future are inspiring, for the doctor is becoming more and more a self-sacrificing altruist, and seeks prevention rather than cure. Increased knowledge of the cause of disease has so greatly increased our powers of prevention that the future for humanity promises to be far more free from disease, far healthier, and far happier.

DR. MARK A. BROWN has been elected professor of materia medica and therapeutics in the Cincinnati College of Medicine and Surgery.

Therapeutics.

Internal Treatment of Lupus with Fluorin.

A. Philippson has been testing sodium fluorid in the treatment of lupus since 1895, and now announces that we have in it a most effective means of favorably influencing lupus, applied in a 10 per cent. plaster, but most active taken internally. His report in the *Dermatologische Zeitschrift* for July, of several cases followed for a couple of years, more or less, emphatically demonstrates the value of this new medication. Unfortunately it causes gastric disturbances in time, requiring suspension of its use before the cure can be completely realized. To obviate this he resorted to an organic preparation—natr. parafluorbenzoicum—and found this equally effective, readily taken and free from after-effects. The prompt and marked improvement constantly attained suggests its application to other tuberculous processes. The dose is 7½ grains three times a day.

Methyl Salicylate in Pruritus.

In a number of cases the effect has been immediate and absolutely remarkable. It has been found effective in pruritus, prurigo and lichen simplex. The following is the formula:

℞. Methyl salicylate.....gr. xxx
Zinc oxid
Vaselin ää.....5v
M. Apply in a thick salve, so that it will adhere closely to the skin.

—*Lereadé.*

Soluble Metallic Mercury in Syphilis.

From an experience of eighty-two cases of syphilis in various stages, all promptly and thoroughly cured with inunctions of the new soluble preparation of mercury—similar to Credé's soluble metallic silver—O. Werler recommends it as the easiest, simplest and most effective means of curing all syphilitic processes, in a communication in the *Derm. Ztft.* for July. Very much less of the mercury is required than in any other form. It is more rapid, non-toxic, non-irritating and an improvement in every respect over other methods of mercurial treatment, internal or external, according to his experience. The formula for the salve is:

℞. Hydrargyri colloidalis.....ʒiiss
Aquæ destil.....ʒiiss
Adipis suilli et caræ albæ (4-1).....ʒxviiiss
Ether sulph.....gr. xxiiss
Ether benzoati.....gr. liiss

For Insect Bites.

℞. Flexible collodion.....ʒiiss
Salicylic acid.....gr. xv
℞. Collodion.....ʒiiss
Mercuric chlorid.....gr. vii
M. Apply locally to arrest pain and abort inflammation.

—*Bernbeck.*

Acute Gastritis.

For the vomiting of acute gastritis Pepper frequently prescribed one of the following formulæ:

℞. Hydrarg. chor. mit.....gr. i
Bismuth subnitrat.....gr. xxxvi
M. Ft. powders xii. Take one powder dry upon the tongue every three hours until four or five have been taken.

℞. Acid. carbol.....gtt. iv
Sodi bicarb.....ʒiss
Elix. aurant.....ʒss
Aquæ q. s. ad.....ʒiv
M. Sig. A teaspoonful every three hours.

Myalgia.

This affection is unusually trivial as to duration and consequences, but often is such a source of discomfort to the patient that a ready remedy is a definite addition to the physician's armamentarium.

℞. Ext. cimicifuga fl.
Ext. erythroxylon fl.
Tr. guaiac. ammon., ää.....fʒi
M. Sig. A teaspoonful three times a day.

Cardiac Dropsy.

The following diuretic pill, suggested by H. C. Wood, will be found of great value in cases of cardiac dropsy.

℞. Pulv. scillæ
Pulv. digitalis
Caffein citrat., ää.....ʒss
Hydrarg. chol. mit.....gr. v
M. Ft pil xxx. Sig. One pill three times daily.

To Keep the Hands White and Soft.

In these days of asepsis the hands of the physician, and especially of the surgeon suffer greatly from frequent scrubbings and immersions in antiseptic solutions. A preparation that will keep the hands white and soft and that will not at the same time be inelegant to use, is always in demand. The following formula will be found to be one of the very best ever proposed for this purpose:

℞. Ol. rosæ.....gtt. xv
Glycerin.....ʒi
Spts. myrciæ.....ʒiii
Ol. cajuput.....gtt. xx
M. Apply at night before retiring, first washing the hands thoroughly in hot water. In cold weather this can also be applied to the hands before going out.

Flatulent Dyspepsia.

While the following formula is not pharmaceutically elegant, it is at times exceedingly efficient in the treatment of gastric fermentation.

℞. Bismuth salicyl.....ʒii
Magnes. carb.....ʒii
Carbo pulv.....ʒiii
Ol. menth. pip.....gtt. xxx
Of this powder give a small teaspoonful one-half to one hour after meals.

Atropin in Bronchial Asthma.

Von Noorden recommended Trousseau's method of treating asthma, e. g., by atropin (*Journal of Med. and Science*). The treatment lasts from four to six weeks, commencing with half a milligram per dose, increasing every two or three days by half a milligram, until a dose of four milligrams has been reached. After having reached this amount, the dose is again gradually diminished. If the dose is increased so gradually, no injurious by-effects will be noticed, but nevertheless the patient must be under the physician's supervision. On the attack itself, the atropin has no effect, but it prevents further attacks for a long time. Where no permanent cure is achieved by the atropin there is at least a long-lasting improvement; provided the asthma is not complicated by emphysema and chronic bronchitis.

Malarial Cachexia.

Dr. Lockwood recommends the following for the anemia following malarial attacks.

℞. Ferri redacti.....gr. ii
Pulveris ipecac.....gr. ¼
Acidi arseniosi.....gr. 1/40
Ext. colocynth Co.....gr. ii
M. Ft. pil. Sig. Take one three times daily.

—*Louisville Med. Mon.*

Suprarenal Gland in Chloroform Accidents.

In the *Revue de Therap. Medico-Chir.*, we are told that Minkowsky has repeated the experiments of Biede and of Gottlieb, and has found that the use of suprarenal gland in the lower animals does much toward preventing accidents during the administration of chloroform, probably through its powerful influence on the vascular system.—*Therap. Gazette.*

Treatment of Gonorrheal Ophthalmia.

Dr. D. T. Vail of Cincinnati summarizes an excellent paper on this subject as follows:

1. The general practitioner should always warn his gonorrhea and leucorrhea patients of the danger of inoculating their eyes.

2. As the family physician is usually the first consulted,

he has the golden opportunity which the first hours afford. He should seal the unaffected eye at once.

3. It is well to bear in mind that all cases of purulent ophthalmia are not gonorrheal; on the contrary, only a very small percentage are.

4. For diagnostic and scientific reasons microscopic examination of the discharge should be made.

5. For the cornea to escape involvement is the great exception.

6. The best early treatment in my judgment is: *a*, leeching; *b*, continuous iced applications day and night; *c*, nitrate of silver, 2 to 4 per cent. solution, applied to the everted eyelids once or twice a day; *d*, non-irritating gentle flushing of the eye every few minutes; *e*, canthotomy downward and outward to liberate the lower lid.

Subcutaneous Injection for Hemoptysis.

R. Ergotin ..... ℥iv
Morphinæ hydrochloratis ..... gr. 1/12
Antipyrini ..... gr. xxiiss
Sparteinæ sulphatis ..... gr. 1/30
Atropinæ sulphatis ..... gr. 1/32
Aquæ destil., q. s. ad 3iiss

M. Sig. One hypodermatic (m. x to xv) every half or quarter hour, not exceeding five in all.

—*Capitan, Med. Rec.*

Gargling in Hiccough.

Dr. Laura M. Plantz, of Putney, Vt., calls attention to the value of gargling the throat in cases of hiccough. She has tried this treatment in several cases, says the *Jour. of Med. and Science*, and in no case did it fail. It seems to make no especial difference whether cold water is used or some medicated solution, the act of gargling being the one essential thing. The relief of the spasm is probably to be explained by the fact that the gargling sets up a reflex action in a new direction, and the spasmodic action of the diaphragm ceases. Mr. Morrill Macenzie long ago called attention to the fact that in dangerous spasm of the glottis the one thing to do is to set up reflex sneezing by tickling the nose with a feather or by use of snuff. The act of gargling must relieve spasms of the diaphragm in a similar way.

To Check Hemorrhage.

Chlorid of calcium, in doses of eight to sixteen grains, every two to four hours, should be tried in all forms of persistent hemorrhage, especially hemoptysis, hematuria, and intestinal hemorrhage of typhoid fever, for this salt increases the coagulability of the blood. It should be remembered, however, that this drug should not be used more than three days continuously, for its prolonged use decreases the coagulability of the blood.

For Sweating Feet.

R. Formaldehyde ..... gr. x
Thymol ..... gr. x
Zinz oxid ..... ℥viiss
Powdered starch ..... ℥xiiiss

M. Sig. Apply as a dusting powder.

Pepsin in Burns of the Third Degree.

O. Waterman of New York gives a history of a case, reported in *Merck's Archives*, of a machinist, 46 years of age, who received a burn of the third degree, caused by some boiling pea-soup which was spilled over his left forearm. This was at first treated with carron-oil, and next day with iodoform gauze. At the end of three or four days the wound had a raised edge and was covered with a dirty-whitish purulent secretion. Some places were curetted. Pepsin was then sprinkled over the arm and the whole surrounded by a gauze bandage. At the end of four days this was removed and the wound surface was studded over with healthy granulations, and here and there new patches of epidermis had commenced in this short time to develop. The wound was then again cleansed with antiseptics and another sprinkling of pepsin applied. At the end of about twelve or thirteen days the whole arm was healed and there was no scar tissue. It is also to be noted that the patient was anemic and suffering from tabes dorsalis.

Antiemetic Mixtures.

The *Gazetta degli ospedale e delle cliniche* attributes the following to Wiglesworth, says the *N. Y. Med. Jour.*:

R. Mentholis ..... gr. xv
Alcoholis
Syrupi, ãã ..... ℥x
Aquæ chloroform ..... ℥xviiss

M. Sig. A dessertspoonful every half hour.

Vomiting of Pregnancy.

For the vomiting of pregnancy and bilious vomiting the following are given:

R. Acidi carbolici ..... gr. 9/10 to 4½
Chloroformi ..... gtt. v
Syrupi
Aquæ destillatæ, ãã ..... ℥xxx
Tinct. aurantii cort. q. s.

M. Sig. A dessertspoonful every two hours. Some spoonfuls of water should then be administered from time to time.

Treatment of Burns.

In a communication from Paris in *The Therapeutic Gazette* the following formula employed by Dr. Lucas Championnière in the treatment of burns is given:

R. Vaselin ..... ℥xxii
Essence of thyme.
Essence of origanum.
Essence of verbena.
Essence of geranium ..... gr. iiiss
Naphtholate of soda ..... gr. xv-lxxv

Quinin Sulphate in Exophthalmic Goiter.

Paulesco, in collaboration with Raynier, has made certain studies in regard to the pathogenesis of exophthalmic goiter. He believes that the principal trouble in this affection is the vasodilatation which affect the blood-vessels of the neck and head. As the result of this distension we have tremor, the goitrous swelling and active congestion of the thryoid body which produces in its turn a hypersecretion of the gland, and which has a distinct physiologic action. Paulesco claims that he has employed the sulphate of quinin with remarkable results, arising from its influence in producing vasoconstriction of the vessels of the head and neck. He gives fifteen grains of it at night after supper, and again a quarter of an hour later. He states that this treatment decreases the tachycardia, diminishes the exophthalmus and the size of the goitrous swelling. —*Revue de Therap. Med. Chir.*

For Irritating Cough of Phthisis.

When not accompanied by much expectoration the following mixture is recommended:

R. Codeinæ ..... gr. iv
Acidi hydrochlorici dil ..... ℥ss
Spiritus chloroformi ..... ℥iss
Syrupi limonis ..... ℥i
Aquæ destil., q. s. ad ..... ℥iv

M. Ft. emulsio. Sig. One teaspoonful at short intervals when cough is troublesome.

—*Murrell.*

Treatment of Early Morning Diarrhea.

Lemoine *(Nord Med., Med. News)* thinks that the morning diarrhea, occurring especially in nervous individuals with an excess of hydrochloric acid, can be favorably affected by a suitable diet. Roast or broiled meat should be taken at supper time, and no vegetables. He gives his patients ½ to 1 dram (2 to 4 grams) of bicarbonate of soda before the evening meal, and at bedtime 2½ drams (10 grams) of gelatinized phosphate of chalk, either in milk or in syrup.

Diarrhea after meals occurs also in hyperchlorhydric persons. They should be put on a correct diet, and should lie down after eating. Each meal should be followed by 2 or 3 drops of acetum opii in a little water.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Chicago Medical Recorder, August.

1.—*The Medical Profession: The Causes of its Division into Discordant Elements and the Reasons I am Not a Homeopath. Wm. E. Quine.
2.—*Carcinoma Developed in Primarily Non-Malignant Cyst-Adenoma of the Ovary. F. Henrotin and M. Herzog.
3.—*So-Called Congenital Obliteration of Bile-Ducts. F. X. Walls.
4.—*Quantitative Determination of Albumin in Urine. C. W. Purdy.
5.—*Relations of Colon to Intra-Abdominal Tumors. M. L. Harris.
6.—*Some Interesting Surgical Cases. D. W. Eisendrath.
7.—Spontaneous Dislocation of Hip-joint Complicating Typhoid Fever. A. N. Burr.

Canada Lancet (Toronto), August.

8.—*Some of the Resources in the Diagnosis, Classification and Treatment of Cystitis E. C. Dudley.

Cleveland Journal of Medicine, August.

9.—*Surgical Cases of Disease of the Bladder and Urethra. Wm. H. Fisher.
10.—Extrauterine Pregnancy. M. Rosenwasser.
11.—*Epidemic Cerebrospinal Meningitis. W. T. Howard, Jr.
12.—Mastoiditis. Royce D. Fry.
13.—*Should Appendicitis be Considered a Medical and a Surgical Disease? George W. Crile.

Annals of Ophthalmology (St. Louis, Mo.), July.

14.—*Hydrophthalmos: a Bibliographic, Clinical and Pathologic Study. Walter L. Pyle.
15.—Retinitis Circinata. W. E. Bruner.
16.—Typical Diabetic Retinitis: Report of Two Cases. H. O. Reik.
17.—*The Crisis in Binocular Vision. J. L. Barnes.
18.—Two Cases of Unilateral Total Ophthalmoplegia; Crossed Hemiplegia being Associated with the Ocular Paralysis in One Case. H. F. Hansell and W. G. Spiller.
19.—Tumors of the Brain. U. O. B. Wingate.
20.—What Amount of Axial Myopia Theoretically Produces Emmetropia for Distance after Removal of the Crystalline? Carl Weiland.
21.—The Dioptric Eye, an Explanation. Edward Jackson.

Obstetrics (N. Y.), August.

22.—*Treatment of Eclampsia. Joseph B. DeLee.
23.—*Operative Treatment of Labor Complicated by Pelvic Deformities. George W. Dobbin.

Iowa Medical Journal (Des Moines), August.

24.—Hospital at Independence. Gershom H. Hill.
25.—Our Obligations to the Public. Harold Bailey.
26.—Superlative Pyelonephritis. F. E. Walker.
27.—*Two Unusual Cases. F. L. Rogers.
28.—*Chairman's Address—Section on Hygiene. C. F. Wahrer.

Medical Sentinel (Portland, Ore.), August.

29.—*Use of the Curette in Gynecology. E. F. Tucker.
30.—*Hysterectomy or Myomectomy. K. A. J. Mackenzie.
31.—Some Thoughts on Medical Advertising. E. Stuver.
32.—Depreciation of Vision. R. Nunn.

Texas Medical News (Austin), August.

33.—*Therapeutic Value of Cannabis Indica. John V. Shoemaker
34.—Constipation. R. C. Fisher.

Alabama Medical and Surgical Age (Birmingham), August.

35.—*Disorders of the Nervous System Accompanying Gynecic Diseases. R. S. Hill.
36.—*An Organic Compound of Silver Nitrate. Geo. H. Stubbs.
37.—Meningitis. R. C. Bankston.
38.—An Interesting Case of Obstetrics. E. C. Anderson.

Pennsylvania Medical Journal (Pittsburg), August.

39.—*Some Injuries of Parturition, Especially of the Perineum, Francis P. Ball.
40.—*Treatment of Acute Injuries of the Brain, Based on Indications of Cerebral Anemia of Engorgement, with Report of Cases. J. H. Anderson.
41.—*Remarks on Nephrectomy, with a Plea for the More Certain and Earlier Diagnosis of Conditions Requiring it. Chas. P. Noble.
42.—Note on Employment of Solutions of Toluidin-Blue in the Treatment of External Inflammatory Diseases of the Eye. Clarence A. Veasey.
43.—Some of the Legal Results of Advanced Medical Legislation. W. S. Foster.
44.—*State Board of Health and Antitoxin. Thos. D. Davis.
45.—Observations on Nature and Her Methods. W. R. Hockenberry.

Occidental Medical Times (San Francisco, Cal.), August 15.

46.—*Intravenous Injections (Baccelli) of Mercury in the Treatment of Syphilis. Dudley Tait.
47.—A Case of Foreign Body in the Heart. W. Ophuls.
48.—*Case of Marked Deformity of the Nails (Onychogryphosis) in Anesthetic Leprosy. Douglas W. Montgomery.
49.—*Remarks on Diagnosis and Modern Treatment of Pulmonary Tuberculosis. George L. Cole.
50.—Case of Tabes with Unilateral Atrophy of the Tongue. Paul Lanz.

Bulletin, American Academy of Medicine (Easton, Pa.), August.

51.—Duty of the Doctor as a Teacher. Edward Jackson.
52.—*Ethics of Specialism. A. L. Benedict.
53.—Evolution of Specialism. Ruth W. Lathrop.
54.—*How Far Has Specialism Benefited the Ordinary Practice of Medicine? L. D. Bulkley.
55.—*Some Obstructions to Progress of Specialism in Medicine. G. H. Makuen.
56.—*Effect of Specialism on the Medical Profession. J. C. Morris.
57.—The Passing of Materialism. G. M. Gould.
58.—*Ethics of Medical Advertising. R. H. Babcock.
59.—*What Benefits Do the Laity Derive from the Honorable and Efficient Physician's Abstinence from Ordinary Advertising? A. Goldspohn.
60.—*Advertising in the Medical Profession. C. T. McClintock.
61.—*Some Effects on Present Methods of Advertising on Medical Literature. J. A. Lichty.
62.—*Ethics of Advertising Applied to the Medical Profession. A. Ravogli.
63.—*What Shall Be the Future Policy of the Medical Profession with Regard to Medical Advertising? E. Stuver.
64.—Care of Northern Troops in West Indian Islands. Geo. G. Groff.
65.—Some Remarks on Hospital Organization, with Special Reference to Continuous Service. J. C. Wilson.
66.—What Shall Be the Minimum Standard of Requirements for Admission to the Study and Practice of Medicine? W. W. Potter.
67.—The Tennessee Method. T. J. Happel.
68.—On the Preparation of Questions. Edward Cranch.
69.—The Unifying Influence of the Three Board System. H. M. Paine.

Kansas City Medical Record, August.

70.—Remarks on Brain Lesions Following Infective Middle-Ear Inflammation, with Special Reference to Symptoms, and Briefly as to Operative Measures. B. E. Fryer.
71.—Pepto-Mangan in Treatment of Anemia in the Female. A. L. Fulton.

Medical Monograph (Topeka, Kan.), July.

72.—Typhlitis and Perityphlitis. John A. Mitchell.
73.—Intussusception or Invagination. J. F. Pickerel.
74.—Chronic Gastro-Intestinal Catarrh. W. J. McAnaly.
75.—Summer Complaints of Children. E. A. Donmyer.
76.—Feeding in Relation to Diarrhea of Children. T. W. Peers.
77.—Intestinal Therapeutics. B. D. Eastman.
78.—Artificial Feeding in Infants. H. A. Bunker.

Chicago Clinic, July.

79.—Laryngeal Tuberculosis. J. Homer Coulter.
80.—Unscientific Commercialism Contrary to Ethics and Good Manners. I. N. Albright.
81.—Hemorrhoids Complicated with Pruritus Ani; Fistula in Ano in a Tuberculous Patient. J. R. Pennington.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), August.

82.—President's Address before the Twenty-third Annual Meeting of the American Dermatological Association. John A. Fordyce.
83.—Acute Gonorrhea; Its Prevention and Cure. Thomas. G. Youmans.
84.—Some Notes on Syphilis. C. T. Pearce.

St. Louis Medical and Surgical Journal, August.

85.—*Pathology and Therapy of Cancer, with Special Reference to Cancer of the Stomach. Augustus C. Bernays.
86.—A Successful Treatment of Dermatic Eruptions. William Hooker Vail.
87.—Comparative Therapeutic Value of Recent Antiseptics in Pediatric Practice. G. M. Blech.

Southwestern Medical Record (Houston, Texas), August.

88.—Placenta Previa. W. P. Gilstrap.
89.—Prevention of Contagious Diseases. N. J. Phenix.
90.—Antitoxin and Surgical Treatment of Diphtheritic Laryngitis. Jos. Mullen.

Georgia Journal of Medicine and Surgery (Savannah), August.

91.—Modern Obstetrics. Ralston Lattimore.
92.—Necessity for a State Pediatric Society. O. B. Bush.
93.—Ectopic Pregnancy. J. W. Long.
94.—A Fibroid and an Ovarian Tumor—Aphasia, Agraphica, Paralysis. M. J. D. Dantzler.
95.—A Report of Three Abdominal Sections. S. W. Pryor.
96.—Diagnosis of Bullet-Wounds of the Intestines. Hugh M. Taylor.
97.—Observations on the Use of Tannopin in the Treatment of Gastro-Intestinal Disorders. W. E. Fitch.

Woman's Medical Journal (Toledo, Ohio), August.

98.—Puerperal Insanity. Cause, Symptoms and Treatment. Anna Burnet.
99.—A Common Case and Its Practical Suggestions. Josephine M. Wetmore.
100.—Pregnancy Nephritis: Report of Case. Frances H. Lee.
101.—Papilloma of Cervix, with Report of Two Cases. L. G. Towslee.

New York Lancet, August.

102.—Some Acute Pulmonary Troubles. R. S. Michel.
103.—Rational Treatment of Consumption. J. G. Sinclair Coghill.
104.—Case of Toxemia with Convulsions. C. L. Fraser.
105.—"What's the Use?.' I. N. Love.
106.—Eclampsia: Induction by Premature Labor; Recovery. W. C. Howle.

Canadian Journal of Medicine and Surgery (Toronto), August.

107.—Restoration of Lower Lip after its Entire Removal for Cancer. Frederick Winnett.
108.—Bacteriologic Work in the Laboratory. M. I. Beeman.
109.—A Systematic Bacteriologic Examination of the Fauces in Scarlet Fever as a Means of Preventing Post-Scarlatinal Diphtheria. G. C. Garratt and J. W. Washbourn.

North Carolina Medical Journal (Charlotte), August 20.

110.—*Case of Abdominal Pregnancy of Nearly Two Years' Duration. M. Bolton.
111.—The Doctor, the Druggist, Proprietary Medicines, Patents, etc. Wilbur F. Sterman.
112.—*Should Nerve Stimulants be Administered to Pregnant Women? S. L. Perkins.

Medical Fortnightly (St. Louis, Mo.), August 15.

113.—Lung Gymnastics. Albert Abrams.
114.—Howard Kelly's Proctoscope as a Factor in the Diagnosis and Treatment of Ulceration of the Rectum. Leon Straus.
115.—Physiology. A. L. Benedict.

Virginia Medical Semi-Monthly (Richmond), August 11.

116.—Pharmacy the Handmaid of Medicine. W. J. Jackson.
117.—Philosophy of Sickness. Thomas P. Harrington.
118.—Adenoid Vegetables, with Especial Reference to their Influence on the Ear. A. W. Calhoun.

New York Medical Journal, September 2.

119.—The Sphere of Laryngology. The President's Address. Wm. E. Casselberry.
120.—*Is the So-Called American Voice due to Catarrhal or Other Pathological Conditions of the Nose? John W. Farlow.
121.—*Observations on the Treatment of Hay-Fever. Beaman Douglas.
122.—Bovine Tuberculosis in its Relation to Man. Edward Moore.
123.—*The Therapeutic Value of Oxygen. W. L. Conklin.
124.—*Cerebral and Meningeal Syphilis Treated by Intramuscular Injections of Insoluble Salts of Mercury. Some Points in Technic. J. Coplin Stinson.
125.—A Case of Colocynth Poisoning. William Ellery Jennings.

Boston Medical and Surgical Journal, August 31.

126.—*The Effects of Training. A Study of the Harvard University Crews. Eugene A. Darling.
127.—*A Safe and Quick Method of Joint and Bone Fixation. Edward A. Tracy.
128.—A Case of Sarcoma of the Uterus; Repeated Operations; Recurrence; Death. S. J. Mixter.
129.—A Case of Myxosarcoma of the Uterus and Vagina, from the Service of Dr. J. G. Blake at the Boston City Hospital. E. H. Mackay.
130.—Case of Sarcoma of the Uterus. F. H. Davenport.
131.—Sarcoma of the Uterus. William F. Whitney.

Cincinnati Lancet-Clinic, September 2.

132.—*Medicine. H. H. Spiers.

Maryland Medical Journal, September 2.

133.—*The So-Called Typhoid-Pneumonia. Frank R. Smith.
134.—*Ethyl Bromid as an Anesthetic in Minor Surgery. J. Elmond Kempter.

Medical Record (N. Y.), September 2.

135.—*Psychotherapy; or Suggestion as a Cause and Cure of Disease. H. H. Seelye.
136.—*The Etiology of Scarlet Fever. W. J. Class.
137.—*A Preliminary Report upon the Use of Pure Carbolic Acid in the Treatment of Mastoid Wounds with Chronic Suppuration of the Middle Ear. Wendell C. Phillips.
138.—*An International Language for Scientific Men—Is it a Possibility? R. Ellis.
139.—Multiple Sinus Disease Following Influenza. Charles Stedman Bull.
140.—Report of a Case of Cerebral Meningitis, Manifesting Extraordinary High Temperature. R. B. Christian.
141.—An Interesting Case of Membranous Sore Throat. Beverly Robinson.
142.—Cerebrospinal Meningitis with Ulcerative Endocarditis and Abscess of Myocardium, Due to the Diplococcus Intracellularis of Weichselbaum. L. Napoleon Boston.

Philadelphia Medical Journal, September 2.

143.—A Year of Abdominal Surgery at the Pennsylvania Hospital, Philadelphia. Francis T. Stewart.
144.—*Difficult Points in Gynecologic Diagnosis. Wilmer Krusen.
145.—*Subcutaneous Rupture of the Intestines. Henry C. Keenan.
146.—*The Symptomatic Treatment of Consumption. Benj. F. Lyle.
147.—*A Case of Intrauterine Epidemic Cerebrospinal Meningitis. R. E. Gradwohl.
148.—Acute Abdominal Symptoms Demanding Surgical Intervention. Maurice H. Richardson.
149.—Paroxysmal Hemoglobinemia; Report of a Case. Philip S. Roy.

AMERICAN.

1. See JOURNAL, April 29 and May 6.

2. **Carcinoma of the Ovary.**—Henrotin and Herzog report two cases of the comparatively rare condition of the development of carcinoma on a primary non-malignant cystadenoma of the ovary. Both cases were demonstrated pathologically, after removal. In the first case perfect cure was apparently obtained; in the second, a recurrence of the malignant disease carried off the patient in a comparatively few months. The authors remark on the frequency of the primary condition and its lasting for many years, and in many cases without developing malignancy as in these cases.

3. **Congenital Obliteration of Bile Duct.**—According to Walls, the so-called congenital obliteration of the bile-duct is a misnomer. In the great majority of cases, if not in all, an inflammatory infection of the larger bile-passages initiates the disorder, and as the tendency does not seem to be toward spontaneous cure, unless speedily relieved, the condition passes into an adhesive or obliterating angiocholitis, with or without cystic dilatation, terminating fatally within a few months. The indications for treatment are, he states: 1. Prophylactic: Aim to prevent, especially during the first few weeks of life, all irritation of the gastrointestinal canal. 2. Medical: Remove or counteract any irritation that may have occurred; lessen the intensity of the inflammation; stimulate intestinal, hepatic and pancreatic activity. 3. Surgical: When medicine is of no avail, at the earliest moment consistent with the exclusion of possible error in diagnosis, inspect the bile passages and endeavor to re-establish biliary flow by probing the bile-duct, dislodging the foreign mass, dilating if necessary, or in the event of organic obstruction establish an anastomosis between intestinal and biliary tracts.

4. See abstract in JOURNAL, August 26, ¶ 97, p. 599.

5. This paper was printed in the JOURNAL of February 18.

6. **Some Interesting Surgical Cases.**—Eisendrath reports a case of surgical kidney in a woman aged 27 years, relieved by the operation of nephrectomy, with good recovery, showing that the prognosis of this condition is not necessarily unfavorable. Another case is reported, of traumatic rupture of the urethra requiring suprapubic cystotomy and retrograde catheterizing, also attended with success. The paper discusses the literature of these conditions.

8. **Cystitis.**—The summary of Dudley's paper is as follows: 1. The conditions which were formerly considered the prime causes of cystitis have receded to their proper place and must be estimated only as predisposing causes. 2. The recognition and appreciation of pathogenic bacteria as the exciting causes of cystitis is essential to a scientific understanding of its pathology, etiology and treatment. 3. Alkalinity of urine depends on the action of certain bacteria, notably the proteus vulgaris, in the decomposition of urea. The bacillus coli communis, which is one of the most frequent causes of cystitis, is one of a class which does not decompose urea and therefore does not produce ammoniacal urine. Contrary to the older opinion, alkalinity is not the rule; on the contrary, in the majority of cases the urine remains acid. Alkalinity, if present, is often the work of microbes secondarily introduced. 4. The classic symptons of vesical pain, frequent urination and pus in the urine are wholly inadequate as a basis of the diagnosis of cystitis Moreover, the condition called cystitis has receded from the rank of a distinct disease to that of a symptom, and should be so regarded. The mere recognition of the fact that cystitis exists is not a diagnosis. A fact is not a diagnosis, and the recognition of cystitis may by contrast with that of its complications be of very minor importance. 5. The diagnosis must comprehend not only the presence of infection in the bladder but, what is more important, it must embrace the source, routes, type and complications and the variety of the inflammatory reaction. Simply uncomplicated inflammation of the bladder is rare. 6. The endoscope and cystoscope can alone open the way to efficient exploration and diagnosis, can alone define the indication for topical or surgical treatment, but, more essential, can alone prepare the way for the examiner to distinguish between cystitis and a wide variety of other urinary affections of the bladder, urethra, ureter and kidney. One is astounded at the revelations of the cystoscope in the recognition of most important lesions which must otherwise have passed unobserved. 7. The washing out of the bladder as a routine measure is not approved. The injection of disinfectants is indicated only in general or nearly general cystitis. For localized cystitis direct applications to the part affected should be made through the endoscope. 8. Dilatation of the urethra is indicated for localized cystitis at or near the neck of the bladder. The efficiency of the procedure for such localized cystitis has given it an undeserved recognition in the treatment of general cystitis, which under cystoscopy it can not now retain. 9. The most valuable disinfecting topical application in cystitis is the nitrate of silver.

9. **Surgery of Bladder.**—Fisher reports over a dozen cases of surgery of the bladder, classified according as they were performed by peripheral section with or without guide, or suprapubic cystotomy, or by combination of suprapubic and perineal operation with retrograde catheterization. He sums up his conclusions as follows: 1. The surgeon's duty is not done when he gains an entrance into the bladder, but it should be supplemented by proper after-treatment. 2. A small perineal incision is preferable, but, if large, the excess should be sutured. 3. Without a proper drain, chills, fever and uremia, with closure of cut surfaces will cause a fatal issue. 4. When a proper

drain is employed Nature will usually render cut surfaces impervious to the absorption of urine. 5. As an aid gauze should be packed around the catheter till this is effected. 6. In packing be careful that the compression does not create an adhesive inflammation, uniting the distal end of the urethra and necessitating a second operation. 7. To prevent this cohesion of raw surfaces, begin instrumentation on the third day unless contraindicated. 8. The bladder should be flushed daily with mild antiseptic solutions, and when toxic symptoms develop, the whole tract, often. 9. An impermeable coarctation of the deep urethra, resisting a perineal section, demands a suprapubic cystotomy. 10. In the combined method, the prevesical space should be opened and the bladder incision should be made of but sufficient length to admit the passage of a small sound. 11. When collapse of the bladder prevents immediate suturing, the through-and-through drain should be used for four to eight days, followed by the perineal drain. By this method a fistula is prevented. 12. In obstructive cases operate immediately, thereby preventing destructive changes that militate against recovery. 13. In retention from stricture, if instrumentations, baths, opium, belladonna, enema and aspirations fail, do not delay operation beyond the third day. 14. After an operation, the urethra should be kept pervious by daily instrumentation, gradually lessening the same to once a month.

11.—See abstract in JOURNAL, May 20, p. 1115.

13. **Appendicitis.**—Crile asks the question whether appendicitis should be treated as a medical disease from the beginning to the end of the attack, and, if not, at what time should surgery share the responsibility? He argues that it should be considered a disease for both medical and surgical treatment from the beginning. Observation should be made at very short intervals, every two or four hours during the development of the disease, so that the opportune moment for surgical interference may not be lost.

14. **Hydrophthalmos.**—Dr. Pyle notices the extraordinary state of confusion in the nomenclature, classification, etiology and treatment of these cases. The proper name is hydrophthalmos, as indicating a general condition, which is present at birth, or appears in early infancy, the beginning being generally prenatal. The diagnostic symptoms are uniformly enlarged and protruding eyeball, insufficient lid action, increased tension, sluggish and dilated pupil, atrophic iris, which appears tremulous if the lens is luxated, peculiar bluish sclera, corneal opacity and anesthesia, deep anterior chambers, restlessness, ill temper, rubbing of the eyes and signs of local pain. While the causes may be various, there is evidence of the following: 1, an intrauterine iridokeratitis, causing closure of the periphery of the anterior chamber; 2, congenital lack of development, either in separation of the iris from the cornea or by a deficiency of the filtration angles in the neighborhood of the iridic angle; 3, a fetal serous cyclitis or uveitis, causing excessive secretion and contraction of the veins of Leber's plexus and obstruction of the spaces of Fontana; 4, vascular disturbances causing arterial overtension and trophic disorders. He divides these cases into two classes: 1. True hydrophthalmos, depending on congenital defective development of the cornea, iris, or filtration channels. 2. Hydrophthalmos secondary to fetal intraocular inflammation, usually in the form given under the heads 1 and 2 above. The prognosis is better than the text-books give. If a case is early recognized and not relieved by iodids, mercurials, and myotics, repeated paracentesis should be tried. These failing, a broad iridectomy should be performed on the worse eye unless the eyeball is very large, when repeated sclerotomies should be tried. The earlier the operation the better. Late operations are dangerous because of the looseness of the lens, thinness of the membranes and disorganization of the vitreous. Prolapse of the vitreous and intraocular hemorrhage are the chief dangers. The more open the filtration canals, the better the prospects. Myotics should invariably be used as adjuncts to operation. The increase of the anteroposterior diameter in hydrophthalmos produces myopia, and the associate corneal disease is likely to cause irregular curvature. In cases giving evidence of useful near vision, whether operated on or not, correction of the refraction by retinoscopy or ophthalmometry with confirmation by test lenses is strongly advised.

17. **The Crisis in Binocular Vision.**—Barnes insists on the importance of endeavoring to secure binocular vision in all cases of strabismus, and that this can, contrary to the common notion, be accomplished in a surprisingly large number of cases. To restore or create binocular vision, he would first correct all errors of refraction, which he thinks will continue to have an etiologic relation. He would, then, before resorting to surgery, use every possible means to produce binocular vision by orthoptric exercises. When, however, the patient shows no sign of recognition of double images, surgery should be resorted to, not merely for its cosmetic but also for its economic effect, and he would have as little disturbance as possible, in the operation of the muscular insertion. Finally, he would refine the vision by orthoptric exercises.

22. **Eclampsia.**—Recognizing toxemia as the principal cause of eclampsia, DeLee lays down the course of treatment before, during and after the attack. In case of threatened eclampsia he advises close attention to the renal functions, and when the toxemia seems aggravated, it is well to place the patient on an absolutely milk diet at once. As the condition improves, starch, and gradually proteid vegetables and the vegetable oils and butter, may be added. The return to a meat diet should be when recovery is almost or quite complete, and then it should be white meat and fish, beef, veal, pork and mutton being forbidden as well as stimulants and spices. The emunctories should be kept active. The patient should have an abundance of fresh air and should rest a good part of the day. In severe cases absolute rest in bed and daily hot packs may have to be ordered. When the attack has occurred the indications are to protect the patient from the violence of the convulsions, and to narcotize her with hypodermics of morphin and chloral per rectum if necessary. Chloroform is only advisable when the attacks succeed each other rapidly. As to bleeding, he thinks it has a place in the treatment, but careful discrimination is necessary. To aid elimination, subcutaneous injection of normal salt solution is an excellent method. Its effect on the kidneys is remarkable. If labor has not commenced when the convulsions occur, it should be induced unless it takes place spontaneously, and should be ended as soon as possible. The treatment during the puerperal period is much the same as that advised for threatened cases.

23. **Labor in Pelvic Deformities.**—The conclusions of Dobbin's paper are as follows: 1. In 131 cases of contracted pelves there was necessity for operative delivery 46 times—35.11 per cent. 2. The pelves most frequently requiring operation are the rachitic and irregular forms. The generally contracted pelvis, though very common in the negro race, is comparatively rarely sufficiently deformed to seriously obstruct labor. 3. Pelves in which the degree of contraction is slight, and those in which the contraction is very marked, are the easiest for treatment, as in both cases the indications are definite, and should give the operator little trouble in deciding on the treatment to be pursued. 4. On the other hand, the pelves possessing a medium degree of contraction are the most perplexing, and call for the exercise of the greater skill and judgment. When proper appliances are at hand, such cases are best treated by tentative application of forceps, and this failing, immediate Cesarean section. 5. In general, forceps give a lower fetal mortality than version, but version done as a primary operation on a movable head, in a slightly contracted pelvis, is a safer operation for the child than a difficult high forceps operation. 6. Except in very exceptional cases, symphysiotomy is not to be compared with Cesarean section, for the former operation, besides causing greater injury to the mother, is always an uncertain procedure. 7. Operations on contracted pelves are rarely uncomplicated. Among the commonest accidents may be mentioned premature rupture of the membranes and prolapse of the umbilical cord. 8. The only rational and scientific method of obtaining "corrected morbidity" statistics is by the bacteriologic examination of the uterine lochia, for only in this way can we say definitely which infections are the result of operation.

27. **Two Unusual Cases.**—Rogers describes the case of a boy who, on the disappearance of the eruption in measles, was allowed to go out and sit in the sun for some length of time. This was followed by a condition in which he was unconscious, with Cheyne-Stokes respiration, low temperature, blue and cold skin and complete anesthesia. At times the respiration

because so feeble that artificial methods were apparently required. He was in this condition for four days, then began to take nourishment and on the sixth day sat up some, though still in a confused mental condition. From this time on convalescence was normal, but there was for quite a period a very peculiar alteration of his disposition. From being quiet and orderly he became noisy, troublesome and vulgar, and at one time had a paroxysm of spitting and other erratic symptoms. Three months later, however, he seemed perfectly normal. The second case was that of a young woman who was run away with by a horse, which she finally succeeded in controlling. There was no shock, though she was badly bruised. The peculiar feature of the case, however, was the complete alteration of her vision. She had been wearing glasses for hyperopia and astigmatism, but the day after the accident her vision was apparently perfectly normal and continued so for about a month. At the end of that time, under the strain of school work, she noticed the return of her old trouble, and at the end of two months she resumed her glasses as before. The Doctor makes no attempt to explain the pathology or nature of these cases.

28.—This address was presented before the Iowa State Medical Society.

29. **The Curette in Gynecology.**—The general trend of Tucker's article is opposed to the common use of curettement in gynecologic conditions. He thinks the uterine mucosa can not be compared with other mucous membrane; that its circulation is derived directly from the uterine substance, with which it shares its disorders. Of course, as to new growths, when they require removal, the curette is indicated as well as in certain other special conditions, but he does not find in his own experience the necessity for curettement that he would expect to find from the reports of others, and he says that if he is losing a chance of making an honest dollar he wants to find it out.

30. **Hysterectomy or Myomectomy.**—Mackenzie reports 8 cases, 5 of myomectomy and 3 of complete hysterectomy, and draws the following inferences as to the advantages and disadvantages of the operations: 1. For pedunculated myomata, whether single or multiple, myomectomy should be done in preference to hysterectomy. 2. In cases of uterine fibromyoma, where the tumors are of moderate size and capsulated, not exceeding in size a small orange, whether single or multiple, not exceeding say five in number, enucleation should be done under careful precautions. 3. In moderate-sized, single, interstitial fibromyoma of the uterus, size that of an orange, where the outlines on palpation plainly suggest encapsulation, enucleation should be done even if in enucleating the uterine cavity be exposed, but in all such cases where the size of the tumor and situation suggest that the uterine canal will be involved in the operation, previous curettage and antiseptic treatment of the uterine canal should be a defensive measure. 4. In small, hard tumors of slow growth, enucleation is indicated if operation is done at all. 5. Subserous fibromyomata, sessile, or pedunculated, unless of great size, should be removed by enucleation. 6. Small fibromyomata, whether subserous or interstitial, should be enucleated. 7. In cases where the uterus is infiltrated with small myomata of symmetric size and growth, whether subserous, interstitial or both, enucleation should be done, but careful examination and palpation should be made to determine that all are removed. 8. In all cases of submucous fibromyoma, enucleation should be performed.

Indications for hysterectomy, supravaginal or total, are outlined as follows: 1. Large tumors, tumors weighing say five to eight pounds and upward, unless pedunculated. 2. When the uterus is the seat of disseminated myomatous formations where distribution and arrangement suggest great variations in size and numbers, and when the uterus is large and of rapid growth. 3. When the tumor in uterus is large and of rapid growth. 4. When the tumor is intraligamentous. 5. In all cases where, on account of the situation of the tumor, projection of the growth takes place, impinging on important organs, such as the bladder, rectum, etc. 6. Soft, edematous tumors which are of rapid growth and which tend to cystic degeneration. 7. Metrorrhagia co-existent with large tumor of the uterus.

33. **Cannabis Indica.**—Shoemaker points out the therapeutic indications and physiologic action of cannabis indica. It is an efficient anodyne in functional and organic diseases, and he reports cases of its use in gastralgia, enteralgia, gastric ulcer, endometritis with metrorrhagia, dental neuralgia, headache from tumors, neuritis, zoster, tabes, migraine, in which it has special value, and chorea. He also speaks of its usefulness in some cases of epilepsy, in paresthesias and insomnia.

35.—This article appeared in the JOURNAL of July 15, and is here reprinted without credit.

36. **Protargol.**—Stubbs reports his experience and observations as to the value of protargol, of which he speaks rather highly. He has found it especially useful and effective in diseases of the lachrymal apparatus, and has frequently used it as a collyrium in chronic conjunctival catarrh, in 1 to 3 per cent. solution. Its advantages over nitrate of silver are that it keeps well in solution, is not affected by heat, and does not irritate the mucous membrane. He hopes that it will stand the test of time, but regrets that its manufacture is controlled by a single firm.

39. **Perineal Lacerations.**—This address in obstetrics, before the Medical Society of Pennsylvania, by Ball, treats especially of the lacerations of the perineum and their management. He insists on the prompt relief of this condition. The laceration of the cervix is also mentioned and its immediate repair is recommended.

40. **Injury of Brain.**—The key-note of Anderson's paper is that the pathology of the symptoms of cerebral compression is anemia of the encephalon. The danger in concussion is from the anemia or engorgement of the pial veins during the stage of reaction. He explains these ideas in detail, and while he does not wish to have it understood that he thinks the whole pathology of cerebral injury consists of pial engorgement, he believes it to be the key to the treatment of intracranial pressure.

41. **Nephrectomy.**—Noble remarks that the common estimate of nephrectomy is that it is a very dangerous operation. This is not according to his experience. He believes that if it is done promptly, under circumstances that require it before the general health of the patient becomes too much broken down, it will be followed by a very low mortality. The object of his paper is to insist on a more careful study of kidney disorders, so that this operation may be done when called for. He reports eight cases where it was performed for tuberculosis, stone, cancer and accidental destruction of the ureter, and he insists on the importance of catheterizing the ureters separately to determine the condition.

44. **The State and Antitoxin.**—Davis believes that the state should supply free antitoxin for the poor suffering from diphtheria, from stations at easily accessible points. It should also see that a strict quarantine is established, that all cases are isolated, and that those coming in contact with them are treated with immunizing antitoxin.

46.—This paper appeared in the JOURNAL of June 17.

48.—See abstract in JOURNAL, May 13, p. 1054.

49.—Ibid, p. 1052.

52, 54, 55 and 56. **Specialism in Medicine.**—Benedict calls attention to the fact that specialism implies a certain superiority in special lines, or a formal promise to acquire such skill by experimenting on patients, or a mere subterfuge to gain practice. The last requires no discussion, the second refers to the fact that occasionally a physician passes into special practice immediately after graduation, and he does not think that he deserves special censure if he does this under the guidance of and in immediate association with an expert, though he will probably go lame through life for lack of knowledge of general medicine. The ideal specialist is not born or made, but grows. In passing from general to special practice there must be a transition period, which he estimates at from two to three years. The specialist should limit his practice rigidly enough, to be fair to himself, his patients and the general profession, but not so much as to refuse relief in case of emergency. He calls attention to certain objections that have been made to the distribution of reprints, which he thinks is a perfectly legitimate and dignified method of presenting one's self before the profession.

Bulkley asks the question: How far has specialism benefited the ordinary practice of medicine? and answers that it has advanced the science and art. It has classified diseases more thor-

oughly and simplified nomenclature; obscure conditions have been discovered and elucidated; clearer descriptions of disease have been given in every branch of medicine; treatment has been generally simplified and crystallized, and multitudes of new methods have been introduced, and all these advantages have been open and free to the general practitioner. It has also advanced the ordinary practice of medicine by relieving conditions which the general practitioner could never have accomplished alone, and incidentally has benefited it by a certain education of the public to the pecuniary value of professional services.

Makuen speaks of certain obstructions to the progress of specialism in medicine from lack of ethical considerations on the part of physicians toward each other.

Morris takes up the side against specialism, holding that it is disastrous alike to the medical profession and the public. The system of specialism can not give rise to broad men. It narrows one down to a limited field, and cuts him off from what is around him. It has led to a want of confidence in ability to treat the ordinary diseases. The all-round physician has become too rare. He would like to have a law on the statute books prohibiting any man becoming a specialist until he had spent at least three years in general practice, and then only allow such as had shown special ability or fitness.

58-63. **Medical Advertising.**—Babcock deprecates the tendency to advertise in medicine and points out the direction in which the remedy is to be obtained.

Goldspohn points out the advantage of the ethical rules against advertising on the part of the profession to the laity. That they may better appreciate this, he suggests that all honorable physicians themselves recognize this as an important practical reason for this time-honored rule in our ethics. They should explain to the laity, individually and collectively, the practical meaning of this rule in medical conduct, whenever occasion is presented. There should be more frequent discussions of this general subject in medical societies, so that the practical basis of this feature of medical ethics may become current in the medical mind, and that the public should have some authentic and conveniently accessible register of all physicians who strictly abide by the spirit and letter of our code of ethics in this and all other important points. In the preface to such a directory it should be modestly but plainly stated that this is a list of physicians who depend for employment on a spontaneous recognition by the public of their general qualifications and results in actual practice, and that they should shun commercial advertising in order to enable laymen to recognize and escape the frauds of medical impostors.

McClintock speaks of the method of advertising by reprints, college professorships, and various unethical though rather intangible methods. He thinks that we should have some legitimate way in which the man of ability could make known his qualifications.

The point in Lichty's communication is that medical literature is dominated by advertising methods. Medical periodicals are gradually coming to the level of ordinary newspapers, while medical books are being lowered in standard to the ideas of the publishing companies and the laity.

Ravogli believes that there would be no harm in stating on the card the name of the specialty to which practice is limited. As for the cards in daily papers, they are really of little value and only a matter of expense to the physician. He also deprecates the advising of proprietary remedies or those of unknown composition as an evil and lending one's self to the mercenary methods of others.

Stuver concludes his paper with the following: 1. All physicians, from the most eminent to the most obscure, should be accorded equal advertising privileges. 2. Professional advertising should be limited to the insertion of plain cards in the local papers or a sign pointing out the location and office hours of the physician. 3. All local notices in which the name of the physician is mentioned in connection with the treatment of cases or the performance of operations should be absolutely interdicted. 4. The public should be educated to regard active participation in promoting the organization of the medical profession and assisting to build up and strengthen medical sciences as a criterion of greater professional eminence and distinction than merely local notoriety.

85.—See abstract in JOURNAL, August 12, ¶39, p. 405.

110. **Case of Abdominal Pregnancy.**—Bolton reports a case of a young negro woman who suffered from symptoms interpreted as malaria threatening abortion, when she was apparently four or five months pregnant. These symptoms disappeared under treatment, but her husband came several times afterward for further medicine. Some weeks after her expected period she came to the office somewhat reduced in size but seemed to be in perfect health. She then passed into the hands of a quack and was not again seen until nineteen or twenty months after the first visit, when she was found moribund. Post-mortem revealed a complete skeleton with soft parts entirely putrified.

112. **Nerve Stimulants in Pregnancy.**—Should nerve stimulants be administered to pregnant women is asked by Perkins, and enswered in the negative, on the ground that they have a bad effect on the fetus.

113. **Lung Gymnastics.**—Abrams recommends, as methods for forcible lung distension, holding the breath after full inspiration, and also irritation of the skin of the thorax. His experiments have shown that any skin irritation, mechanical, chemical or electrical, will produce dilatation of the lungs, always greatest in the immediate vicinity of the irritation. This lung reflex will prove useful in diagnosis, as resonance can be increased by friction of the skin over the lung percussed.

120. **The American Voice.**—Farlow's paper discusses the assumed prevalence of a nasal twang in the American voice, and he comes to the conclusion that it is merely a bad habit, and not due to climate or racial conditions. The disorders incident to our climate do not specially favor the nasal tone, at least in the adult. (See editorial in JOURNAL, p. 295.)

121. **Hay-Fever.**—After some general remarks as to the nature and causes of hay-fever, Douglass considers the treatment under four heads, viz.: 1. Treatment of the cause *a*, local irritation by pollen, etc., relieved by change of locality to where such irritants are absent, also by respirators, etc.: *b*, vicarious elimination of autotoxic irritants via the nasal mucosa being a possible cause, other organs of excretion must be stimulated into action; *c*, if vasomotor disturbances, shown by blueness, pallor, readiness to take cold, etc., are a cause, cold baths, spongings, spinal douches, and regulation of the circulation by small doses of quinin and digitalis are indicated; *d*, neurasthenic conditions are to be combated by exercise, rest, change of occupation, tonics, etc., and if the uric acid diathesis exists, proper eliminative treatment must be adopted. 2. Treatment of the attack, *a*, local, by cleansing away the irritants, relieving the hypersensitiveness of the overirritated nerves. For the first of these warm nasal douches of weak saline solution, after gentle spraying with a watery 1 per cent. cocain solution. After this, treatment with a 4 to 6 per cent. cocain solution cautiously applied, followed later if necessary by mild cautery with silver nitrate, phenol camphor, or preferably Clark's solution, composed of mercury bichlorid, 1 gr., quinin hydrochlorid 1 dram, glycerole of carbolic acid (B.P.) 1 oz. For home use milder applications of menthol, etc., may be used. For the general treatment he recommends acetanilid, digitalis and quinin, the first used cautiously, the other in full doses to tone up the vessels and relieve the constitutional symptoms. The internal administration of dried suprarenal glands is also very highly recommended by Douglass. He believes it almost a specific. He also uses the remedy locally in solution as a spray, but trusts more to its internal administration. Between the attacks, the existing nasal lesions should be treated and all pathologic conditions relieved.

123. **The Therapeutic Value of Oxygen.**—Conklin insists on the therapeutic value of oxygen inhalations, claiming that facts show that when it is needed by the blood it is thus readily absorbed. He has used it in a variety of conditions accompanied with dyspnea, bronchopneumonia, acute lobar pneumonia, and advanced valvular cardiac disease—with great advantage.

124. **Intramuscular Injections of Mercury.**—After reporting a case in detail treated by intramuscular injection of salicylate of mercury and of calomel, with success, Stinson describes his method as follows: 1. Sterilize by boiling four ounces of oil of sweet almonds, which is kept in a sealed ster-

ilized bottle. 2. Use pure salicylate of mercury that has been put up in a sealed half-ounce bottle and prepared by some reliable firm—*e. g.*, Merck. 3. Weigh out accurately the amount to be used for one injection on a clean paper. 4. Put the powder in an aseptic small mortar and pour in about half a dram of the sterilized oil; triturate well. 5. Place the patient flat on his stomach, legs extended; disinfect area of injection with 1-to-500 bichlorid of mercury solution. 6. Sterilize the needle (two inches long) by syringing with alcohol and bichlorid solutions or by boiling or some other method. If bichlorid is used, wipe the needle off at once with dry cotton, which removes the bichlorid, prevents tarnishing, and, in fact, makes the surface of the needle shine better than before. 7. Draw the fluid into the syringe, stirring while doing so with the end of the syringe; fit or screw on the needle and force the fluid along the needle till it appears at the point, which is wiped dry with cotton. 8. Plunge the needle vertically into the tissues the full two inches of the needle, introducing the point about a quarter to half an inch above the junction of the inner and middle thirds of a line carried from the upper border of the great trochanter to meet the cleft of the buttock at right angles. 9. Inject the oil slowly, and when the syringe is empty withdraw the needle slowly. This prevents any of the fluid being deposited in the fatty tissues, which is a source of some pain. Dust on a little aristol or other mild antiseptic and pour on a few drops of collodion, which is allowed to dry. I have often used, and have frequently seen, intramuscular injections of the salicylate of mercury used, in the treatment of syphilis, and have yet to see the first case wherein an abscess formed. Absorption of mercury begins very soon after the injection, as shown by the symptoms and by testing the urine for mercury, which does not disappear from this excretion for four or seven days if two grains have been injected. Subsequent doses are repeated about twice a week so as to obtain a thorough systemic effect. By this means mercury is continuously in the system.

Points in Technique, etc.—In tertiary syphilis, as in other stages, a thorough course of treatment should be followed if one wishes to cure. Four series of injections should be given each year for three years or longer. If the salicylate of mercury is used, and two grains can be tolerated at each injection, two injections should be given a week, and this treatment continued for about five weeks—i. e., till nine or ten injections are given. Forty per cent. of patients take two grains without any inconvenience. Forty per cent. more can not stand two grains, as it produces too many movements of the bowels, quite painful colic, sometimes considerable pain in and around the region of the buttock, and exceptionally a few bloody stools. These patients can be given about a grain and a third of the salicylate at an injection with little discomfort, which is therefore given three times a week; while the remainder, about 20 per cent.—hyperesthetic individuals—will not take intramuscular injections of two grains, as they cause pains and lameness, on account of which they will not submit to them. Between the series of injections ten minims of saturated solution of potassium iodid in water should be given three times daily. If there are urgent symptoms, increase two minims daily until coryza and a few other symptoms of iodism appear, when the original dose may be resumed.

By using injections the functions of the digestive tract, the skin and liver, etc., are not interfered with. The doses are certain of absorption and can be regularly regulated according to the susceptibility of the individual; with aseptic and antiseptic precautions the treatment is perfectly safe and the resulting improvement is certain and rapid. Under ordinary conditions the practice of adding morphin or cocain or both to an injection, is not necessary, and should be condemned. In cases of syphilis with dyspnea, cocain can be added with advantage, as it rapidly overcomes this distressed condition. I know of a case with marked cardiac dyspnea (in the practice of my colleague, Dr. G. Gross), in which cocain was added to an injection. The dyspnea ceased immediately, and it was not necessary to repeat the cocain subsequently.

It is of vast importance before beginning intramuscular injections to ascertain that the teeth are in excellent condition and that the kidneys are not diseased. Patients with nephritis should not receive large doses of mercury by injection, as even small doses are not well tolerated. In all cases the urine should be examined once in a while during the course of treatment.

126. **The Effects of Training.**—Darling's article is not concluded in this issue but will be noticed when completed.

127. **Joint and Bone Fixation.**—The chief point in this paper is the use of "splint-blanks" or pieces of wood-fiber splint material reinforced with gauze, cut in such fashion from a paper pattern that when moistened it can be molded over the limb or fracture and bandaged, thus producing fixation of the part. The author gives details for the application of these "splint-blanks" to each joint or region and points out their advantages. They allow of ready inspection, are quickly and easily applied, and light and comfortable and reliably fixative.

132. **Medicine.**—Spiers deprecates the lack of literary culture in some medical writers; the too ready assumption of the effects on medicines on man from those animals; the dropping of old tried remedies to take up new ones, etc.

133. **Typhoid Pneumonia.**—Smith's paper is an argument against the use of the term "typhoid pneumonia." His conclusions are as follows: In view of the fact, 1, that the majority of pneumonias occurring in the course of typhoid fever are not caused by Eberth's bacillus, but by the pneumococcus, and 2, that asthenic pneumonias with so-called typhoidal symptoms have nothing in common, so far as etiology is concerned, with typhoid fever, it would seem advisable, with our present knowledge, to discard the term "typhoid-pneumonia" as savoring too much of inaccuracy, especially as we are reminded by it of the wholly indefensible term "typho-malaria." For these rare cases in which it can be proved beyond doubt that the pneumonic process as well as the general typhoid infection are both due to the bacillus of Eberth we still have the term "pneumo-typhoid," the use of which, however, should be subject to these strict limitations. Accuracy in terminology is the first step toward a reasonable therapy, and the ill results of calling conditions by wrong names must inevitably lead to a less clear-sighted management of them.

134. **Ethyl Bromid.**—Kempter advocates a more general use of ethyl bromid in minor surgery, claiming that its dangers have been overestimated, and its convenience and advantages not duly appreciated.

135. **Psychotherapy.**—The condition of mental impressibility affecting the bodily states is noticed at some length by Seelye, who reports at more or less length seven cases where mental suggestion produced striking effects and cures. He thinks that it is not necessary after detailing these to strengthen his cause by referring to other ailments, such as headache, insomnia, neuralgia, etc., that may be similarly relieved by this means as an adjuvant to drugs and other recognized therapeutic methods. While cases where suggestion alone is sufficient from beginning to end are comparatively rare, it can, nevertheless, be advantageously employed to some extent in almost every case.

136. **The Etiology of Scarlet Fever.**—This is practically the same article as published in *Medicine*, June, 1899. (See JOURNAL, April 8, p. 765, and June 24, p. 1432.)

137. **Carbolic Acid in Mastoid Wounds and Ear Diseases.**—After noticing that Dr. S. D. Powell has reported the use of pure carbolic acid followed by alcohol in surgery, and that Dr. Roosa has also employed it, Phillips reports six cases in which he himself used it in this manner with good advantage. He has prepared the carbolic acid by simply adding enough water to the crystals to hold them in solution, and later he has used this in a very finely drained spraying-tube which can be introduced into the aural canal and spray the acid into the attic and middle ear. It well to avoid any excess of carbolic acid, so as not to have to use too much alcohol. Up to this time he has observed no ill effects, no inflammatory reaction, and no extension of disease from its use.

138. **International Scientific Language.**—Ellis discusses the subject of an international language for scientific purposes, and asks whether it is a possibility. National feeling and jealousy have hitherto prevented the use of any one of the leading modern tongues, and this will probably be the case hereafter. As regards dead languages, and especially Greek, which has been so strongly recommended, he refers to the difficulties of

learning a tongue of this kind, and points out that it would give the advantage to mere linguists while men of real scientific merit would be precluded from publishing their results. He believes that the old way will have to be followed, but the time will come when by some arrangement, a translation of every paper presented at the international meetings can be provided for.

144. **Difficult Points in Gynecologic Diagnosis.**—After alluding to the difficulties of gynecologic examinations in many cases, Krusen discusses the subject of the diagnosis of uterine carcinoma, and to aid, suggests the following points which will be found useful though they may not be applicable to every case:

1. The usual friability and vascularity of the tissue, which, if not detected by the finger, may easily be made apparent by hooking a tenaculum into the suspected area. The tenaculum will immediately tear out and cause abundant bleeding from the carcinomatous tissue.

2. A close adhesion of the mucous membrane of the portio to the parenchyma.

3. The difficulty in cervical dilatation as evidenced by the introduction of a tent. In a cancerous process there is, as a rule, a continuance of the hardness after dilatation.

4. Bleeding is easily provoked by an examination or by any unusual exertion or manipulation.

5. The characteristic induration of the cervix is almost imperceptible at first, but increases as the disease progresses.

6. Puncture of any suspected nodules or follicles will differentiate carcinoma from cystic follicles or distended glands.

7. Ulcerated or eroded areas which are not speedily amenable to treatment should be regarded with suspicion.

8. Any enlargement of the uterus occurring after the menopause, is usually due to malignant disease. (Fisher.)

9. An early diagnosis can only be made with absolute certainty by microscopic examination of either an excised wedge from the suspected cervix, or, in cancer of the body, of portions of the endometrium removed by curettage. The value of the examination will depend upon the experience and competency of the pathologist.

Epithelioma is less frequent but it is liable to be confused with: 1, simple vegetations; 2, lupus of the vulva; 3, syphilitic affections; but the first, the simple vegetations, secrete a virulent fluid unlike the ichor of cancer, they readily yield to an energetic caustic which prevents their reproduction, and they have no hardened base, being remarkable for their softness. In the case of lupus, the vulva is red and presents scattered fungous ulcerations which are without any indurated base; while the syphilitic chancre is more limited and has a little circle of characteristic indurations. Other points of difficult diagnosis referred to are ectopic pregnancy, the differentiation of appendicitis from pyosalpinx or ovarian disease; ovarian cysts from ascites, and the perplexing problems of pregnancy complicated with typhoid.

145. **Rupture of the Intestines.**—The first part of this paper is largely a review of opinions of this accident and a brief analysis of the symptoms in some 70 cases observed since 1893. As regards the technic of the operation when it is required, the following points are specified:

1. To cut down over the point of impact of the force, and then gently lift the loops of intestine going toward the spine, Fevrier and Adam having shown that the laceration will be found in this situation; 2, after finding one tear to search for others, avoiding, however, evisceration; 3, to regard any discolored spots with great suspicion and treat them as ruptures. Seven cases are briefly stated.

146. **Symptomatic Treatment of Consumption.**—The treatment of pulmonary tuberculosis, according to Lyle, is hygienic and dietetic and whatever we may do for the disease in other directions must not compromise our efforts in this line. For the toxemia of the early stage, creosote alone has the confidence of the profession. It has no effect on the tubercle bacillus but seems to diminish its toxins and probably has some effect on the associated germs. It also stimulates the metabolism. Sunlight, fresh air and nutritious food are the next essentials and on the functional ability of the stomach our efforts will largely depend, hence, the necessity of attention to the condition of this organ. A urine analysis should be made occasionally to show the condition of the assimilative functions, decrease of urea being a warning symptom. Lyle thinks that cod-liver oil and alcohol are over used. He believes in the local treatment of the cough, intratracheal injection if necessary. In the advanced stages, opium may be required, but bromids may often enable us to dispense with it if the cough is purely nervous. The night sweats he considers as conservative and their treatment is seldom necessary. Fever is the result mainly of sepsis. Rest and the open-air treatment must be principally relied upon to combat it though quinin may be useful sometimes. Latterly he has used hypodermic injections of 10 to 30 minims of guaiacol to modify the fever, with good results. Hemorrhage in the early stages is usually salutary and requires no special treatment other than increased nutrition. The later hemorrhages due to rupture of large vessels should be treated by enabling a thrombus to form in the artery. The patient should be placed in a reclining position with plenty of fresh air, and if the bleeding is persistent, the chest movements may be limited by adhesive strips and the return flow of blood from the lower extremities withheld by constricting the thighs. Ice bags, he thinks, are likely to be harmful.

147. **Intrauterine Epidemic Cerebrospinal Meningitis.**—Gradwohl reports a case of a woman who died of cerebrospinal meningitis in the seventh or eight month of pregnancy. The brain of the fetus presented the same appearance as the maternal brain and contained the characteristic bacilli. The only reported case bearing any resemblance to this that he is aware of is one of Herwerden of a sporadic meningitis due to pneumococcus.

FOREIGN.

British Medical Journal, August 19.

Ununited Fracture in Childhood. EDMUND OWEN.—Owen's presidential address raises certain questions as to the causes of lack of union in fractured bones in childhood, and as far as he can answer it, it is by the influence of trophic nerves. He suggests that there is a subtle disturbance of the anterior horn of the cord inhibiting nutrition of the bone, rendering it weak and friable and hindering its repair.

Discussion on Pleuritic Effusion in Childhood.—Robert McGuire discusses the pathology, treatment, etc., of pleurisy and pleuritic exudates in children, and Betham Robinson treats of it in its surgical aspects. He discusses whether free incision and drainage are of any value in tuberculosis of the pleura, where we should make the incision, and should we resect the ribs or not in empyema, and lastly, should we use irrigation? He always resects the ribs, as it adds no risk to the operation, and as regards irrigation, he thinks its value counterbalances its attendant risk in cases of septic collections in the pleura. In the discussion that follows, Tubby considers irrigation a very dangerous proceeding.

Observations on Morbid Anatomy of Tuberculosis in Childhood, with Special Reference to Its Primary Channels of Infection. GEORGE F. STILL.—The morbid anatomy of tuberculosis in childhood, and especially the methods of its infection, are discussed at some length by Dr. Still. He concludes that the commonest channel of infection is through the lungs. That by way of the intestines is less common in infancy than in later childhood. Milk is, therefore, not the usual source of tuberculosis in infancy, and he suggests that this is due to precautions taken in boiling, sterlizing, care-taking, etc. Inhalation is much the commonest mode and the overcrowding of the poor population in the large towns is probably responsible for much of the tuberculosis of childhood. Prophylaxis must be directed to the prevention of this overcrowding, improvement of ventilation, etc.

Discussion on Convulsions in Infancy. A. M. GOSSAGE AND J. A. COUTTS.—The authors lay most stress in the causal factors of convulsions in childhood on a neurotic predisposition, and local irritation of the digestive tract and elsewhere is probably less effective than supposed without this predisposition. They conclude that the frequency of convulsions in infants has been greatly overrated, that the immediate danger of fits has been overrated, while that as regards future neurotic manifestations has been underestimated. The predisposing causes are of more importance than the exciting causes.

Hugh R. Jones believes that convulsions must be regarded as causally related to digestive disorders or other organic disease,

and indirectly, also, to social conditions tending to produce disease. It is important to reduce the complexity of medical statistics, which are more than usually intricate, because they very frequently involve more than one factor. It is desirable to reduce to a minimum the obstacles which tend to prevent the recognition of the ultimate origin of disease, for progress in the improvement of public health is retarded through want of accurate knowledge.

Causation of Night Terrors. E. GRAHAM LITTLE.—After discussing the theory of these disorders, Little analyzes some thirty cases that he has observed and offers the following deductions: 1. Night terrors are in the great majority of cases caused by disorders productive of moderate but prolonged dyspnea. 2. A preponderating number of cases are found in rheumatic subjects with early heart disease. 3. A considerable proportion of cases are due to obstruction of nasal cavities and fauces. 4. Digestive disturbances do not play the important part in causation that is often assigned to them. 5. The evidence of their causal connection with epilepsy or allied neuroses is scanty. 6. The attacks occur in the subconscious stage of early sleep, and are confined to young children under puberty.

Lancet, August 19.

Albuminuric Retinitis. SAMUEL WEST.—The author divides albuminuric retinitis into two types, the exudative and the degenerative forms. The first of these is similar to what is met with in other forms of neuroretinitis. The degenerative form consists in white patches and hemorrhages, the former being the most characteristic. This degenerative form is associated with granular kidney, the exudative especially with parenchymatous nephritis. The exudative is probably toxic in its origin, the degenerative follows vascular changes and is more or less mechanical. The exudative may recover with little impairment of sight. In the other, however, if there is any impairment of sight it is usually progressive. As to their diagnostic value, the exudative form is an interesting accompaniment of parenchymatous nephritis, otherwise manifest, while the degenerative often makes the diagnosis certain in cases which have hitherto been obscure, while both indicate a grave form of renal disease. The degenerative type also indicates the dangers due to arterial disease.

Journal des Sciences Medicales de Lille, August 15.

Subconjunctival Injections of Atropin. L. THILLIEZ.—By this method minute amounts produce the desired effect and cure even when all other measures have failed, as is evidenced again by a number of observations reported in this communication: ulceration and phlyctenular keratitis, acute and painful iritis, etc. Two drops of a 1/200 solution injected under the conjunctiva proved promptly effective without causing any phenomena in the other eye, not even the slightest paresis of accommodation. Subconjunctival injections are usually reserved for mercurial salts, etc., but this method is indicated in all cases in which the conjunctiva absorbs defectively, or not at all, also, in cases requiring prompt action or in which the action of other medication requires to be reinforced or completed.

Presse Medicale (Paris), August 9.

Mobility of the Pelvic Articulations and Influence of Posture on the Size of the Pelvis. E. BONNAIRE AND V. BUE.—The attitudes instinctively assumed by the parturient woman modify the dimensions of the pelvis, and Bonnaire and Bué have established that an exaggeration of the natural attitudes has a decided influence in favoring delivery, enlarging the diameters of the inlet and outlet, assisted by the relaxation of the pelvic symphyses induced by the pregnancy. The play of the various pelvic articulations in the different positions is described in detail as they observed it on 500 maternity patients examined, and the practical conclusions are drawn that hyperextension of the entire body, the trunk braced against a resisting plane at the sacral region, enlarges the inlet by 3 mm. in the sagittal direction, as the sacrum is thrown back and the pubis lowered. The attitude produced by rolling up the pelvic members on the trunk, the knees opposite the shoulders, avoiding both abduction and adduction—the perineal incision position—reduces the diameter of the inlet but enlarges the bi-ischiadic diameter of the outlet to an average of 16 to 18 mm. The hyperextension position is indicated to favor the spontaneous engagement of the head in the various forms of rhachitic malformation of the pelvis. Sufficient enlargement can not be counted on, however, unless first assured of a marked relaxation of the pelvic articulations, appreciable by the degree of mobility of the two pubes on each other. Hyperextension is also indicated to effect the engagement of the head with the aid of forceps, or to extract the back of the head retained by the small inlet, but this attitude hinders obstetric maneuvers to such an extent as to counterbalance the advantages derived from the slight enlargement, in most cases. It is impossible also to determine in this position in the usual way the minimum promonto-pubic diameter as the proportions are altered. The perineal incision position is much more profitable; it favors obstetric interventions by exposing the field of operation to the accoucheur, but is less frequently indicated than hyperextension. It will be found especially beneficial in cases with narrow inlet—cyphotic pelvis—or when the head is locked in frontal presentation in the small pelvis and must be extracted with forceps, or when the head has been extracted, but the shoulders are caught on the floor of the pelvis owing to the size of the trunk.

Deutsche Medicinische Wochenschrift (Berlin), August 17.

Fatal Acute Dilatation of the Stomach. R. KIRCH.—A young man, rather anemic, but who had never suffered from gastric disturbances, was suddenly affected with syndrome resembling the symptoms of perforation of an abdominal organ; intense pain, vomiting and large fluctuating area of dulness but no fever. A splashing sound when the patient was shaken confirmed the diagnosis of dilatation of the stomach, and emptying and rinsing the stomach cleared up the symptoms at once, but too late to relieve the compromised heart action. At the autopsy the stomach was found like an enormous bag resting on the floor of the pelvis, the pyloric end reaching up to join the duodenum, and the pylorus permeable for two fingers. The stomach was normal except for its size and the evidence of gastritis that had followed the fatal supper of two plates of "brodsuppe" and a glass of beer. In the course of the gastritis the stomach had suddenly renounced its motor functions and all absorption by the mucous membrane had ceased, inducing intense thirst, while the quantities of water ingested and not absorbed only served to increase the dilatation further.

Deutsche Zeitschrift f. Chirurgie, I, 1 and 2.

Cancer of the Lip. FRICKE.—An experience with 137 cases, at Bonn, has convinced Fricke that neither tobacco nor alcohol is a factor in the pathogenesis of cancer of the lip, but that vises prompt extirpation of any warty excrescence on either lip. is twelve times, and of the upper lip three times, more frequent in men than in women. Invasion of the jawbone may occur within three months of the first appearance of the neoplasm, and, with or without ganglion metastases, renders the prognosis very grave. The only treatment is early removal, and he advises prompt extirpation of any warty excrescence on either lip. Nine of the patients died; there has been recurrence in forty-one; the rest are all well to date, in most cases over three years. He advocates removing the ganglia before touching the primary neoplasm, and rejects extensive resections of the jaw as dangerous and useless. All the deaths occurred in patients thus treated.

Wiener Klinische Wochenschrift, July 20.

Clinical Pathology of the Peripheral Nervous System in Pulmonary Tuberculosis. R. SCHMIDT.—This communication, concluded from the two preceding numbers, describes the valuable information to be derived from certain nervous symptoms in the early diagnosis of tuberculosis, at a period when other indications are negative or conflicting. These disturbances in the peripheral nervous system are either the result of local, chiefly mechanical, seldom toxic, action of the tuberculous process in the lung on the adjacent nerve routes—the brachial plexus, recurrent and intercostal nerves, etc.—or the result of the generalized action of toxic and especially dyscrasic injurious influences. Among the former the most important are the phenomenon of unilateral pain on pressure of the brachial plexus, and the frequently associated homolateral acroparesthesia, usually located in the ulnar region, which have a special diagnostic significance in the early stages of pulmonary tuberculosis and initial hemoptysis. Tuberculosis must be considered as a possible factor, direct or indirect, in all the various causes of

acroparesthesia, especially in the young. Symptomatic acroparesthesia in phthisic subjects is distinguished from the acroparesthesia due to organic or functional lesions of the nervous system proper, by its frequency in male subjects; its frequent coincidence with acute catarrhal pulmonary processes—influenza bronchitis—its limitation to one side; its parallelism with typical tuberculous symptoms, night sweats, evening fever, etc., and the frequent coexistence of unilateral and homolateral pain when the brachial plexus is compressed. In the 162 cases of acroparesthesia on record, due more or less totally to vasomotor, trophic, gastric, etc., disturbances, there are only twelve males and no cases under 20 years of age; almost all were women about 40. Schmidt considers the statements of tuberculous subjects in regard to their symptoms seldom reliable, and hence does not attract attention to his brachial examination nor inquire whether pain follows compression. The expression of the face is usually sufficient indication and the shrinking from a repetition of the pressure which he controls several times, standing in front of the subject, laying his right hand in his left and applying the latter to the right supraclavicular fossa with the finger tips on the upper margin of the trapezius muscle, sliding them along perpendicularly to the direction of the plexus. Darting pains into the fingers and neck are occasionally encountered, which possibly suggests circumscribed perineuritic alterations in the plexus. Bilateral pain possibly indicates general intoxication from mixed infection. The left side, in his experience, was a little more frequently affected than the right. If the plexus test is positive, inquiry will usually elicit anamnestic data in respect to the acroparesthesia.

Zeitschrift f. Orthopædische Chirurgie (Stuttgart), vii, 1.

Tendon Implantation. H. GOCHT.—Nineteen observations are described in detail from Hoffa's private clinic, emphasizing the value and benefits to be derived from implanting the tendon of an active muscle in the tendon of a paralyzed muscle, restoring the function and neutralizing the paralysis or deformity. (See JOURNAL, xxxii, p. 1109, May 20, 1899.) One of the cases was a traumatic typical radial paralysis of the right hand, of four years' standing, in a child of 12. Narcosis followed 25 grams of chloroform. The operation required forty minutes. After expelling the blood with an Esmarch, the tendon of the extensor carpi radialis longus was exposed with a 5 cm. incision. The hand and forearm were then placed on the radial side and an incision carried from the processus styloideus ulnæ upward to the ulna, and the tendon of the flexor carpi ulnaris isolated and detached by slipping a sound under it. Then returning to the extensor carpi radialis, the tendon was cut between clamps and with the hand in extreme dorsal flexion, the stumps of the tendon were pushed up 2.5 cm. on each other and sutured with six fine silk stitches. The crushed ends were cut off and sutured with six fine stitches. The hand had now assumed the radial elastic dorsal flexed position. After closing the skin wound, the tendon of the flexor carpi ulnaris was detached from the os pisiformis, taken up with a silk thread and passed through the tendon of the extensor carpi radialis longus, the skin pulled as far as possible toward the radialis to expose the tendon of the extensor digitorum communis. At the point where it spreads out into a fan, the well-pulled-out central end of the flexor carpi ulnaris was inserted in it, bringing the fingers into a passive hyperstretched position. The cutaneous incision was then closed, and after wrapping the arm in a sterile compress and a little padding, a circular plaster cast was applied, reaching to the elbow, and holding hand and fingers in a hyperstretched, radially flexed position. A plaster splint was also applied extending beyond the fingers on the side of the flexion, and a metal ring, cast in the plaster on the upper radial side, held the thumb with a rubber band passing through this ring and around the abducted thumb, well stretched. The cast and stitches were removed in ten days and another similar cast applied. Two weeks later this was changed for a volar plaster splint reaching from the elbow to the finger tips, and holding the hand stretched and in slight radial flexion. After three days this splint was removed twice a day for massage, electrization and passive and active exercises of fingers and hand. At the end of the tenth week the patient was writing and taking zither lessons, with normal conditions restored in every respect. Gocht observes that the results in this one case alone would insure a dominant place for tendon implantation in the treatment of paralytic deformities. The technic above described is identical with that of another case of deformity from spinal paralysis in a child of 7, equally successful in its results.

Societies.

COMING MEETINGS.

American Association of Military Surgeons of the United States, Kansas City, Mo., September 27-29.

American Association of Obstetricians and Gynecologists, Indianapolis, Ind., September 19-21.

American Electro-Therapeutic Association, Washington, D. C., September 19.

Medical Society of the State of Pennsylvania, Wilkesbarre, September 18-20.

Medical Society of the Missouri Valley, Council Bluffs, Iowa, September 21.

Nova Scotia Medical Society.—The election of officers of this Society, at its last meeting, resulted as follows: President, D. McIntosh, Pugwash; First Vice-President, C. A. Webster, Yarmouth; Second Vice-President, F. S. Yerston, Truro; Secretary-Treasurer, W. S. Muir, Truro.

New Brunswick Medical Society.—The following is the roll of officers of this Society, elected for the ensuing year: President, William Bayard, St. John; Vice-President, R. L. Botsford; Second Vice-President, T. F. Sprague, Woodstock; Treasurer, Foster MacFarlane; Corresponding Secretary, B. M. Mullin, St. Mary's; Recording Secretary, W. E. Ellis, St. John.

Maritime Medical Association.—At the last meeting of this Association, the following officers were elected for the term of 1899-1900: President, James Christie, St. John, N. B.; Vice-President for Nova Scotia, N. E. McKay, Halifax; Vice-President for New Brunswick, Geo. A. Hetherington, St. John; Vice-President for Prince Edward Island, H. D. Johnson, Charlottetown; Secretary, G. M. Campbell, Halifax; Treasurer, T. D. Walker, St. John.

British Medical Association.

Annual Meeting, Portsmouth, Eng., August, 1899.

(Concluded from Page 606.)

RECENT ADVANCES IN PRACTICAL MEDICINE.

SIR RICHARD DOUGLAS POWELL, Bart., M.D., F.R.C.P., presented the address in medicine, on this topic. He briefly considered the clinical thermometer, anomalous fevers, and the combination of surgery with medicine.

Bacteriology.—He pointed out that bacteriology in its application to diagnosis and treatment in practical medicine is yet in its infancy; but it is a very robust infancy, full of promise, the complete fulfilment of which none of us will live to see. The bacterial origin of tubercle, anthrax, diphtheria, erysipelas, septicemia, typhoid, malaria, influenza, has been revealed to us almost within the memory of the youngest, yet has already been, in many instances, fruitful in suggesting measures of prevention and treatment. Bacteriology, in all its departments, is and must ever remain subject to expert investigation. It is impossible for the busy practitioner to find the time or to maintain the technical skill and apparatus necessary for trustworthy investigation. The various research associations have hitherto in part fulfilled the want and the bacteriologic departments of our hospitals are steadily growing in importance and value; but it is to be hoped that the time will soon come when in every district throughout the country there will be in connection with the public health department a bacteriologic laboratory, where the ordinary, and even the extraordinary, clinical tests will be at the command of every practitioner at a moderate scale of fees.

Susceptibility and Immunity.—It has long been clear to every observant physician who has on the one hand even superficially kept in view the results of bacteriologic inquiry and who has thought on the incidences of such infective diseases as he happens to meet, that we carry about with us in our accessible mucous tracts, and especially in our naso-oral and respiratory passages, amidst other unconsidered trifles and as yet

unclassified germs, samples of the organisms specific to many diseases. We are tenanted by these varied organisms in small colonies or singly, rendered inert only through want of opportunity. The very careful observations of Drs. StClair Thomson and Hewlett, recorded in the "Medico-Chirurgical Transactions for 1895, show that there is a natural cleansing if not antiseptic secretion from the healthy nasal membrane which preserves it from contamination by the numerous organisms which abound in the nasal avenues, so that mucus taken from the central membrane of the nose in health contains few or no organisms. Other bacteria surround us on all sides, and from time to time obtain a temporary but abortive lodgment within us; virulent catarrh, diphtheria, pneumonia, influenza, tuberculosis, erysipelas, perhaps rheumatism, and probably in epidemic times most of the other infective diseases would be represented in one or other category among our domesticated or casual occupants. It is not, however, enough to have the poison germ on the one hand to acquire the disease on the other: there are intermediate or antecedent circumstances of dosage, acquired susceptibility or that subtle malformation of tissue in certain organs which is inherited, and renders them weak in resistance to certain forms of attack. Let a period of depression come over us, involving some slight change in our blood or tissues, some local or general alteration in our chemical or vital functions, and one or other of these organisms may receive the opportunity for aggressive cultivation. We virtually know that this is so in the case of a common cold. Acquired by a momentary chill at an open door, or through wet boots, such a catarrh becomes at once a highly contagious disease, and will "run through the house." There can be no doubt that the catarrh is associated with the cultivation of an organism; it is equally probable that that organism must have pre-existed in some part of the nasal surface. Does some vasomotor disturbance bring about the local conditions of increased heat and moisture needful for that particular form of microbic cultivation, or is it merely depressed vitality that makes the host susceptible? No one, so far as I am aware, has yet condescended to work out the bacteriology of a common cold. Yet it is the type of a large number of more important diseases, and carefully investigated it would be fruitful in side-lights on their etiology and prophylactic treatment.

Serumtheraphy.—It is already an immense achievement if we have acquired the knowledge that every infection requires a separately-prepared serum for its treatment. It explains many of our failures, and gives promise of adding to our successes. It has for some time been recognized that infective endocarditis has a manifold microbic pathology—streptococcus, staphylococcus, pneumococcus, gonococcus, are some of the organisms concerned. It is useless to employ an antistreptococcus serum for a pneumococcus infection, and even the two organisms, streptococcus and staphylococcus, which seem to work most cordially in couples, require a separate treatment. This in part accounted for the very poor success as yet achieved by the serum treatment of this and of some other maladies more or less allied to it. From the clinical side one would judge that very frequently more than one poison was in association. This is certainly the case in many diseases, for example, in the third and often in the first stage of enteric fever, in the suppurative stages of tuberculosis, in scarlatina, and perhaps in gonorrheal rheumatism. In pneumonia again it is remarkable that in every variety of the disease, the sthenic, the asthenic, the typhopneumonia, the septic pneumonia, and the influenzal catarrhal forms, the characteristic pneumococcus is invariably to be found, and this coccus may be the micro-organism conspicuously present in those secondary lesions with which pneumonia is often complicated, and which are attributed to it, such as empyema, infective endocarditis, etc. Yet there are good reasons to doubt whether the pneumococcus organism alone, unassisted by some of its pyogenic *confreres*, is ever able to bring about these secondary lesions which are usually attributed to it. We must push our diagnosis further, to include a recognition of the precise organism or organisms which have obtained lodgment in any given case. Unfortunately, in the earlier stages at least of ulcerative endocarditis, bacteriologic investigation is by no means always successful in identifying the organisms or, indeed, in recognizing any organism, for with well-marked clinical features the specimen of blood examined must be sterile. We may yet for some time to come, therefore, as in complex cases of enteric fever, with which these cases are often confounded, have to rely on the general clinical phenomena presented by the case and its history of attack in our attempt to identify the poison and in our endeavor to select the antidote. We are indeed only at the dawn of serumtherapeutics, and many mistakes will have to be retrieved, many apparent steps forward retraced, in the sure but slow advance in this new departure of therapeutics.

Whilst the possibility of neutralizing by appropriate treatment, the specific poison in certain diseases, will relieve the practitioners of some anxiety, it can not fall on the other hand to add much to the tension of their labors by requiring an earlier diagnosis, and by the great care needed to avoid accidents in the use of delicate organic fluids prone to contamination and decomposition. It is impossible that the treatment can be much developed in general use until abundant local centers are secured for the provision of materials of guaranteed purity.

It is curious and instructive to note that in the two diseases in which antitoxins are of most approved value, namely, diphtheria, and tetanus, the bacillary cultivation is declared (Behring) to be limited to the seat of inoculation, the blood only being charged with their toxins. Whereas the mortality from diphtheria but a few years ago varied from 25 to 50 per cent., according to the severity of the epidemic, it has been reduced by the serum treatment to from 25 per cent to 8 per cent., according to the severity of the case and the date of infection.

Concerning serumtherapy in pneumonia, he said, in part: Unfortunately, we have not yet been supplied with any reliable antidote for the serum treatment of pneumonia, and to-day, although Pane's antipneumococcic serum will protect a donkey or a rabbit from the evil consequences of a strong dose of pneumococcus infection, it has not as yet come into practical use in the human disease. I have recently tried it in two cases without result. This may be due to three causes: 1. It is difficult to use the serum early enough in the disease. 2. The most severe cases in which alone at present one feels disposed to try the remedy are most generally complicated with some other infection, so that the pneumococcus in the sputum does not signify the sole—perhaps not the most important—element of danger in the case. 3. The doses employed by Dr. Pane have been very large, so large that one shrinks from introducing in such bulk an unknown or imperfectly accredited element into any case not already desperate. In the use of these very large doses, my friend Dr. Charles of Rome has suggested to me the introduction of the serum *per rectum* as a method which he has known to prove efficacious with other serums, the absorption being rapid and the serum unchanged. As yet, however, the serum can not be obtained in sufficient quantity for use in such large doses. In all probability the want of success in the antitoxin treatment of erysipelas, puerperal fever, and allied affections, including infective endocarditis, may be similarly accounted for by the presence of more than one organic infection, thus requiring, as pointed out by Behring, Pfeiffer, and Kanthack, more than one antidote.

Soil and Disease.—It is difficult to recognize the striking testimony of such reliable observers as Middleton, Bowditch and Buchanan as to the influence of a wet subsoil on the prevalence of consumption with the present view of the transmission of the disease only by human and bovine infection. We must recall, too, to mind the enormous prevalence of bovine tuberculosis, not be it observed only among stall-fed, crowded, and insanitary cattle communities, but amongst those animals under good open-air conditions. Do we not find in this prevalence of tubercle among pasture-fed cattle, and in the face of the prevalence of the disease in localities with wet subsoils and deficient sunlight, some probability that the tuberculous organism, like those of actinomycosis, tetanus and anthrax may have an independent and preparasitic existence, and that, like malaria, tuberculosis will probably be found to have a double origin from purely microphytic as well as from parasitic infection?

It is remarkable that two at least of the most deadly of disease microbes, tetanus and anthrax, should be normal inhabitants of the soil, and yet how comparatively scarce these diseases are, and, having arisen, how communicable. It would seem that, as is the case also probably with malaria, while the

ultimate source of the disease is vegetation in the soil, yet a greater virulence and activity is attained, and for a short time maintained by cultivation in the human body, or in that of certain other warm-blooded animals. With regard to tuberculosis I would make this final remark: that while we may hope on the one hand by further careful sanitation, 'by destroying and diminishing the careless distribution of bacillary dust, foods, that a considerable inroad on the remaining 14 per 1000 deaths from consumption may happily still be made. But if on the other hand we withdraw or relax precautions dictated by observations sound in themselves, although in some regards capable of amended explanation, our efforts will be less fruitful; for there will be some deductions to be made from the 20 per cent. reduction in mortality already achieved. In my belief there is a mephytic laboratory beyond our special control, yielding organisms ever ready to attack the unwary, and cleanliness is our first line of defense against them all. Wherever the conditions of insanitation, dampness, deficient sunlight, and the prevalence of favoring diseases are present there aggressive activity may be again looked for.

San Francisco County Medical Society.

August Meeting.

EXTRAUTERINE PREGNANCY.

DR. E. E. KELLY pointed out that recent results in the operative treatment of this condition have aroused general interest. Formerly the doctor waited in anxious expectancy till rupture occurred and the patient fortunately lived, or died from the hemorrhage; or he endeavored to destroy the fetus in some one of many ways, trusting for subsequent absorption of the fetal mass. In 1597 Israel Spach described this condition and reported a case of calcified fetus. Regner de Graaf voiced a theory as to the place of impregnation, which closely corresponds with the modern and widely accepted theory. He believed the ova to be normally fertilized in the ovaries, and that the arrest of the fertilized ovum at any point along its path to the uterus caused extrauterine pregnancy. Many theories have been advanced as to the etiology of the condition; they differ as the advocates of the theories differ in their opinion as to the place of impregnation of the ovum. It is claimed that the ovum is fertilized in the Fallopian tubes; in the abdominal cavity; in the ovary; and in the uterus itself.

Kelly classifies the causes of ectopic gestation as follows: Obstacles in the lumen of the tube; disease of the tubal walls or anatomic peculiarity; factors acting externally to the tube, reducing its lumen. All these conditions imply a reduction in the internal diameter of the tube; they simply indicate the cause of the reduction. He evidently holds impregnation to take place in the tube or in the abdominal cavity. The pregnancy may be primarily tubal, ovarian or interstitial; secondary forms may develop from a dislocation of the fetus. Ovarian and abdominal pregnancy are extremely rare.

The clinical history of extrauterine pregnancy does not differ from normal pregnancy during the early weeks. A tumor forms on one side of the uterus, which is elastic and painful to touch. Both the uterus and this tumor grow from month to month. Obscure pains in the pelvis and down the legs may be noticed, and sometimes one sees all the signs of pelvic inflammation. After a few weeks there is usually an irregular bloody discharge from the uterus, more profuse than normal menstruation and more irregular as to time. The uterus often casts a decidua vera, which may be a perfect cast of the uterine cavity. This is a most important symptom; if it occurs with a known ovarian tumor, it is almost diagnostic of extrauterine pregnancy. The condition may go on to full term, spurious labor take place, and the fetus die. Generally the walls of the tube become thinned and rupture; this may occur at any time from a few weeks to nine months. The symptoms are quite characteristic of the condition. The patient, previously in good health, or but slightly indisposed, pregnancy known or suspected, is suddenly seized with severe lancinating pains in the pelvis and abdomen, which may be agonizing; pulse becomes rapid and feeble, and there are generally symptoms of more or less profound shock.

Hemorrhage may be between the layers of the broad ligament, in which case the symptoms of shock are less marked. The amount of hemorrhage into the abdominal cavity depends on the point of rupture and the size of the vessels involved. If a large artery in the placental site is ruptured, death results before any operative interference can be undertaken. The hemorrhage may be slight, cease spontaneously, and recur from time to time as the fetus grows. The ovum may escape into the abdominal cavity, and death of the fetus result. If the ovum is near to the end of the tube, it may be expelled into the abdomen and there become encysted, producing adhesions, but perhaps doing little harm. This expulsion is known as tubal abortion. Suppuration may, on the other hand, occur, with discharge through perforation, into the rectum, vagina, bladder, or through the abdominal walls. Simultaneous uterine pregnancy may obscure the diagnosis of extrauterine pregnancy. Dr. Wilson of Baltimore has reported the occurrence of this condition, both fetuses going to full term and being saved, the mother subsequently dying from septic infection.

If the diagnosis is not made at the time of rupture it may be very difficult to make later. The fetus undergoes calcification and remains, often, as a hard mass in the pelvis, and may so remain for many years without causing any serious trouble.

The treatment has become of late years, almost exclusively surgical. Some of the methods for destroying the life of the fetus may be mentioned. The induced, or "faradic," current may be used for five to ten minutes daily for one or two weeks. Atropin or morphin may be injected into the tumor by means of a long syringe needle, two or three times a week. Whatever method is employed, it should be used till the shrinking of the tumor shows the life of the fetus to be destroyed. The electric treatment may cause rupture of the sac; it should be used only during the first three months, and in the intraligamentous form of gestation. It is best to operate and remove the entire mass. Immediate operation should be performed as soon as the diagnosis can be made; it is perfectly safe, and should the mass prove to be a hydrosalpinx or pyosalpinx no harm is done, for operation is indicated in these conditions. After rupture, if the case is first seen then, a mass may be found connected with the uterus, fluctuating in character, circumscribed and not occupying the cul-de-sac. Here the hemorrhage has taken place into the ligament, and some surgeons do not advise immediate operation. I think this dangerous advice, and always recommend operation. With rupture into the peritoneal cavity immediate operation is imperative.

He then reported a case illustrating some of the difficulties of the surgeon in making a correct diagnosis after rupture has taken place, and also one unusual in that a second extrauterine pregnancy occurred six weeks after operation for the first one.

CASE 1.—Mrs. T., aged 38, first seen July 19, 1898. Emergency call, she having been under the care of a homeopathic physician. Suffering very severe pain, only relieved by a hypodermic injection of morphin. Seen again July 22, suffering from a similar attack. August 4, called again and asked to take charge of the patient. The history was then obtained for the first time. Had been treated by former medical attendant since May 1, 1898. He assured her she was pregnant. About May 20, excruciating pains in the pelvis, with marked prostration. From this time had recurrences of the pain every few days, but not so severe as at first. Patient said her former attendant had not made an examination per vaginam since the commencement of her trouble. Examination showed uterus enlarged to size of three months' pregnancy; ordinary signs of pregnancy not present; uterus fixed in the pelvis; large nonfluctuating mass on the right, not clearly separable from the uterus. Diagnosis agreed within consultation, was uterine pregnancy, death of the fetus without expulsion, and it was thought septic infection had caused the pelvic pain. August 8, operated upon at the Waldeck Hospital; uterus curetted and mass resembling placenta removed. Left hospital August 18, much better and with temperature normal. October 28, exploratory incision determined on; tumor thought to be multiple fibroid, because of firm and unyielding character of the growth. November 5, abdomen opened. Mass in right side of pelvis, walled off by tissue. Right tube found to have ruptured, placenta remaining *in situ*, and the fetus located in Douglas' pouch. The cord was intact. Patient made uninterrupted recovery At time of operation left tube and ovary found to be normal. Four weeks later complained of pain in left side of pelvis. Enlargement found in left tube. Increased in size and diagnosed as a probable tubal

pregnancy of the left tube. Operation on January 12, at the Waldeck Hospital. Left tubal pregnancy, with rupture from the fimbriated extremety; so-called tubal abortion. Large blood clot found in the pelvis. Patient has now entirely recovered and remains well. Fetus not found at second operation, but chorionic villi found on microscopic examination of the tube removed. Ovaries not removed; patient now menstruates normally and without pain.

CASE 2.—Mrs. L., age 28, in good health. Sudden, severe pain in right side of pelvis. Consulted Dr. A. G. Meyer, who made correct diagnosis and ordered her to the hospital. Pelvic tumor clearly made out on right side of pelvis, disconnected with the uterus. A complete decidua vera was passed, which did not show clearly the villi; diagnosis was made, nevertheless, of extrauterine pregnancy with rupture. Operation May 31. The right tube found enlarged and ruptured at extremity, with presence of a hematoma. Hemorrhage had ceased; abdomen closed without drainage. No fetus found, but chorionic villi clearly observable in portion of tube removed.

In conclusion he insisted on early operation when diagnosis can be made. The operation is not more difficult and is less dangerous than the operation for pyosalpinx. The mortality, when left to nature, is 68.8 per cent, according to Schauta, based on 249 cases. In 515 cases of operative treatment, the mortality, according to Martin, was 23.3 per cent. The great value of the uterine decidual membrane in diagnosis can not be overestimated.

He expressed his belief that hematoma of the pelvis is always due to ectopic gestation.

DR. J. HENRY BARBAT also urged immediate operation, performed as soon as diagnosis could be made. He exhibited two specimens recently removed. One was a tube, ruptured at about its center, with the placenta still *in situ*, the fetus having been expelled. Considerable hemorrhage followed but the case terminated in favorable recovery, after operation. Gestation had progressed to about the fourth week. The other tube and the appendix were removed at the one operation. A second specimen showed the smallest fetus he had ever seen. It could not have been more than two weeks from the time of fetation, and its true nature was only revealed by looking at the tiny mass of tissue with a magnifying glass. The diagnosis in the second case had been made by Dr. Barbat while he was himself in bed recovering from an operation for appendicitis which had been performed on him three days before. On the eighteenth day after his own operation he removed the tube and specimen shown. The husband of the patient called on Dr. Barbat while in the hospital, and from the husband's recounting of the symptoms extrauterine pregnancy was diagnosed, subsequent operation demonstrating the correctness of the diagnosis. He mentioned this phase of the case, simply to illustrate the fact that in the average case the symptoms were so clear that a mistake in the diagnosis should not be made, when the patient is seen before and at the time of rupture. The presence of a history of what seems to be pregnancy, with sudden severe lancinating pain, with more or less shock, and a tumor in the pelvis, make a picture that should lead to no mistake in the diagnosis. In his opinion, no question can exist about anything connected with this condition, save the one factor of diagnosis when the patient is not seen till some time after the rupture has occurred. As to the method of dealing with the trouble, one thing alone is to be done; operate and remove the tube, and also the ovary if the latter is found to be diseased. The appearance of the decidua vera, noticed by Dr. Kelly, is a very valuable factor in the diagnosis. The macroscopic appearance of the decidua is generally characteristic enough to confirm or make the diagnosis, without waiting for a microscopic examination.

DR. MAX STRUNSKY asked Dr. Kelly if immediate operation was advisable in all cases, as soon as the diagnosis was made, and without regard to the question of rupture. He had recently seen a report of forty-three cases in which the fetus was killed by means of the interrupted current and in all but one of these the patient made a good recovery; one patient died from rupture of the sac and subsequent hemorrhage.

DR. F. B. CARPENTER indorsed what had been said as to the value of the decidua in the matter of making a diagnosis. Curetting would often bring to light the decidua, if it were not cast out spontaneously. The gross appearance he also thought quite significant of the condition, as the decidua did not at all resemble the decidua of uterine pregnancy. The operation he thought justified on the symptoms, the presence of a tumor in the pelvis, and the finding of the decidua vera as indicated. The operation is simple and the danger is not greater than in any abdominal section, save from the hemorrhage, which, in fact, does not in any way pertain to the operation, but rather to the cause for which the operation is undertaken.

DR. H. D. ROBERTSON said that the treatment of this condition was much easier than formerly, for the reason that we now knew more regarding it, could more readily make the diagnosis, and aseptic surgery had removed the dangers of operating. He recalled many cases, seen years ago, in which the patients could have been in all likelihood saved by operation which would at the present day be undertaken without much discussion. He cited, as a case in which much doubt and confusion had occurred through the patient not having been seen at the time of rupture, the case of a negro woman, a widow of 35, who had consulted him, as well as several others, for an obscure abdominal trouble. The early history could not be obtained, for the reason that the woman, a widow of three years, disclaimed all possibility of pregnancy and did not really give her history. The uterus was found enlarged, when first seen by the Doctor, and the temperature was 104 to 105 degrees. The tumor in the pelvis, which could be easily felt, had the appearance of an infiltrated cellular tissue. The os was slightly dilated, and the diagnosis made was that of abortion. Subsequently the uterus was curetted and decidual tissue found, which convinced all the doctors interested in the case, that it was one of abortion. There remained a mass behind the uterus, which was hard and not fluctuating. Two days after curetting he was hastily called and found the bed almost flooded with a very thick and foul-smelling pus; 40 to 50 ounces had escaped. Examination showed that the pus had perforated through the tumor wall into the rectum, and the finger, when introduced, encountered sundry masses of tissue that felt like bone. These were dug out and proved to be portions of a decomposed fetus. Operation was refused and the tumor scraped out as well as possible, through the rectal opening. The pus continued to discharge for some time, but the woman recovered and is now up and working, though there is still some discharge.

DR. HAROLD BRUNN said that while the diagnosis was often easy, there were times when it was difficult to make. Cases are encountered, however, in which the amount of the hemorrhage is small, the pain is not excessive, and examination shows the os somewhat dilated and the uterus enlarged; there has been a good history of pregnancy, and every indication is that the case is one of threatened abortion. Here it is not wise to curette, for it is not certain that the abortion may not be stopped. Such cases are exceedingly difficult to diagnose and not easy to handle certainly until the lapse of some days and the condition reveals itself more clearly.

DR. ZEMACH LEVIN asked in what manner the diagnosis could be made in the early stages of the trouble and before rupture of the sac had occurred. He thought it certainly wise to operate early, when the diagnosis could be made, but knew of no way in which the diagnosis could be surely made in the very early weeks and before rupture had taken place. He asked Dr. Barbat how he could make the diagnosis of extrauterine pregnancy in the cases he had reported, before rupture occurred.

DR. J. HENRY BARBAT said, in reply, that he knew of no way of making the diagnosis as a certainty in the early weeks and before rupture. In the cases he reported the diagnosis had been made for the reason that the sac had ruptured and the accompanying symptoms were clearly those of extrauterine pregnancy with rupture.

DR. KELLY, in closing the discussion, said that operation was the only method of treatment that could be safely recommended. He recalled a report of sixteen cases treated by electricity in order to kill the fetus, and of these three of the patients died. The operation is especially free from dangers, as we know that pregnant women will take an anesthetic better, and resist shock better, than those not pregnant. He agreed in the belief that the gross appearance of the decidua was often enough to indicate the condition, without resorting to the microscopic examination of the tissue. When the whole cast of the uterus is thrown out, it does not at all resemble the cast in membran-

ous dysmenorrhea, and confusion ought not to arise between these conditions.

CANCER OF STOMACH.

DR. F. B. CARPENTER reported an operation for cancer of the stomach, and said that he did not report the case as cured, nor make the statement that the man would live forever. He thought it well, however, to record the operation as successful so far as the time elapsed allowed. The man had now been quite well for three months. The history was clear, all the classic symptoms and signs of cancer of the stomach being present. Operation was recommended and refused. Later the patient returned and agreed to the operation. The pylorus was somewhat to the right, and the incision was made vertically, through the right rectus muscle. The mass was very easily reached, was movable, and there were no nodules in either the lesser or the greater omentum; there were, however, some in the tissue of the stomach away from the mass itself. For this reason the chance of relief after operation was thought good. Two clamps were placed on the stomach and one on the duodenum; the lesser and the two anterior layers of the great omentum were ligated. Great effort was made to preserve all the blood-supply possible. The value of this had been demonstrated by the experiments which he and Dr. Barbat had made on dogs, and the results he thought were uniformly better when ample blood-supply was assured. The omentum for about one-third of the length of the stomach was tied off. The entire cut end of the stomach was sewed with three layers of sutures. The first lot of sutures was through the mucosa, and was a continuous suture; the second was an interrupted suture line which approximated the cut ends perfectly; these sutures passed through all layers. The approximation seemed to be perfect, but for safety a line of interrupted Lembert sutures was introduced. The duodenum was anastomosed with the posterior wall of the stomach very easily, by the aid of a Murphy button. No temperature over 99 was observed, and that occurred on the following day. For four days rectal feeding was employed, but after that liquid diet by the mouth was allowed. The man made a good recovery and has since the operation gained thirty pounds in weight. Mortality was formerly from 15 to 50 per cent. in these cases, following operation; it has been reduced by recent mechanical aids and is now probably about 20 per cent.

DR. J. HENRY BARBAT said that in the matter of connecting the intestine, it would sometimes be found that the duodenum could not be brought up to the stomach without too great tension. When this was the case he thought it better to cut the jejunum and anastomose it with the stomach, closing the lower end; then to anastomose the duodenum to this portion of jejunum, five or six inches below the stomach. In this way the bile is led to the intestine at about the normal point, and is not allowed to enter the stomach and do harm by producing irritation.

Canadian Medical Association.

(Thirty-Second Annual Meeting, held in Toronto, Ont., Aug. 30, 31 and Sept. 1, 1899.)

(Concluded from p. 622.)

SECOND DAY—MORNING SESSION.

ERYSIPELAS, WITH TREATMENT BY MARMOREK'S SERUM.

DR. A. DE MARTIGNY, Montreal, recited his experience during the last fifteen months with this serum in cases of erysipelas of the face. Although the result of the ordinary treatment in these cases is very good, he thought that the results that he had achieved in several cases treated after the manner, commended the employment of the serum to the profession. One case in particular reported, where the temperature registered 105 degrees and the pulse 148, patient very weak and the face very much swollen and no improvement after ichthyol and ordinary tonic treatment, one injection (20 c. c.) of the antitoxin, with the application of a solution of bichlorid 1-4000 brought the temperature next morning down to normal and the pulse to 96; and the next day pulse normal. Five days thereafter, the patient, a female, went back to work. Other cases were mentioned in which the results were equally good. It exerted a prohibitive action also on relapses.

DR. POWELL, Ottawa, asked re the dose of this particular serum, whether the standard dose was 20 c. c. and whether the dose is altered by the severity of the case or by the age of the patient and other necessary rules for the guidance of the practitioner.

THE PRESIDENT stated he had employed this plan of treatment recently in half a dozen cases with very prompt results and instanced a case where seven attacks or relapses had occurred in fourteen months, but after using this serum, no relapses had occurred in that particular patient.

SIR JAMES GRANT, Ottawa, hoped Dr. de Martigny would pursue further his observations on this plan of treatment for erysipelas and stated that as far back as 1863, he himself had been subjected to the influence of the serum from ordinary vaccin for a very severe blood-poisoning from which he was suffering at the time. He had employed serum therapy then in the treatment of cases of skin disease, particularly severe forms of psoriasis that he had met.

DR. IRWIN, Weston, related a case of scarlet fever in a child which after two weeks developed erysipelas and in twenty-four hours was in a very bad state. He injected 10 c.c on the second day without any result and the child died.

DR. DE MARTIGNY, in reply, stated that either 10 or 20 c.c. can be used, but the streptococci are not all of the same kind. He spoke of the different families of these, and if we are sure of the particular variety we have to deal with in a specified case, the serum corresponding, then 10 c.c. would be a sufficient quantity; but as we do not always possess this information, he considered it wise to inject the larger dose at once. He concluded by asking the members to try this treatment on any cases they might meet with in the next twelve months and report progress at the next general meeting of the Association.

COMPLICATIONS AND TREATMENT OF FRACTURE OF THE SKULL.

DR. J. M. ELDER, Montreal, read this paper. At the outset he stated that his paper had more especially to deal with fractures at the base. During this past summer, he had had under his care in the Montreal General Hospital, no less than seven cases, five being there at the same time, and the whole seven recovered. He thought the profession too prone to think that this was a form of fracture in which treatment was useless. The history of one of these cases in particular was related, the form and nature and location of the injury with the symptoms. He quoted from one of Shepherd's cases where he had assisted that surgeon several years back in tying the common carotid artery after such an injury and stated that in this case he ligated the left common carotid artery, the injury being on the left side, put the patient to bed and she regained consciousness on the third day. Complications ensued in the way of thromboses in different sinuses, but the patient left the hospital twenty-six days after the accident, perfectly well and continues well up to the present time. The other six cases were very much of the same nature. The doctor then outlined the general form of treatment pursued in these cases, giving attention to keeping nose, ears and mouth in proper condition, and having controlled the hemorrhage we should render the parts as aseptic as possible, giving special attention to the external ear. The patient should be kept free from all excitement either of sight, sound or mental agitation.

DR. LETT, Guelph, Ont., brought up the question of the development of mental symptoms after these injuries and also after the tying of the carotid artery.

DR. ERNEST HALL asked the surgeon what led him to select the left side and where there are symptoms of internal without external hemorrhage, what are the surgical indications.

DR. HARRISON, Selkirk, Ont., also asked as to the development of mental symptoms following these cases. He had had injuries of the brain in which there was no ligation of the carotid, in which there was perfect restoration and then a year after these symptoms supervened.

MR. CAMERON stated that he had tied the common carotid on both sides and no mental symptoms followed and thought that these symptoms were due to the traumatism.

DR. SHEPHERD, Montreal, said, in reference to the case Dr. Elder had mentioned, that he had operated several years ago on one of these patients and found a clot at the base of the skull, and because the hemorrhage was so profuse, he tied the carotid immediately. So far as he knew, up to a year ago, no mental symptoms had developed.

DR. ELDER in reply thought that he had heard that this case of Dr. Shepherd had within the last two or three months gone insane; Dr. Shepherd had no knowledge of this and thought it could not be the fact. He was of the opinion, however, that mental symptoms did not develop by reason of tying the carotid.

DRS. ATHERTON, Fredericton, N. B., and BELL, Montreal, contributed further to the discussion of the paper and the cases cited therein.

OBSERVATIONS ON ADENOIDS AND ENLARGED TONSILS AND THEIR REMOVAL, WITH NOTES.

DR. D. J. GIBB-WISHART, Toronto, contributed a paper with this title. The paper was based on the results obtained in a service of four years in the Sick Children's Hospital. His table showed that in all 103 operations had been performed, 47 males and 56 females. Twenty-four per cent. were under 5 years, 24 per cent. over 10 years, and 52 per cent. between 5 and 10 years. Two deaths resulted, both from the anesthetic. Sixteen of these cases were examined one or two or three years after the operations and only four showed any return of the disease. He spoke of the diagnosis of adenoids, the treatment after operative measures had been practiced and the healthy mental improvement which followed operation for this condition. A description of the operation for removal of diseased tonsils followed and he stated that in his opinion the operation was too frequently performed. He also discussed the choice of anesthetic, favoring chloroform.

SIR WILLIAM HINGSTON deprecated the employment of the spray in the nasal passages and the frequency of the operation of tonsillotomy. He had seen many members of different families, all having enlarged tonsils in their youth, grow up, and in adult life the tonsil returned to its normal condition. Powders are the proper applications to the nares.

TUBERCULOSIS AND INSURANCE.

DR. JOHN HUNTER, Toronto, spoke of the imperative duty of the examining physician furnishing true and accurate reports to the medical directors of life insurance companies, and at the same time strongly asserted the position that it was the duty of these companies to see that the applicants should receive the benefit of the advances of medical science of the day. The whole burden and purport of the paper was to invoke discussion that could be used to define more clearly where we are at with reference to the relationship between tuberculosis and insurance and to what degree does the presence of tuberculosis in the individual or family history justify the rejection of applicants. Heredity counted for naught, physical condition and environment much. Too much stress was put upon family history nowadays, whereas the applicant did not receive the right benefit from his own good physical condition.

DR. BENEDICT, Buffalo, spoke of heredity as very much like the heredity of scarlet fever, the difference between a longer period of incubation.

SIR WILLIAM HINGSTON said that this question has done an enormous evil to society. A beautiful young girl is about to be married; a whisper goes round that the disease may be transmitted; she comes of tuberculous stock; the nuptials are declared off and in this way society suffers.

SIR JAMES GRANT advocated the formation of a national society such as the Prince of Wales presides over in England for the spread of information concerning tuberculosis and the means to employ to effect its eradication.

DR. P. H. BRYCE thought that if this Association could form an association to assist the government of the country in this matter, it would be accomplishing much. He advocated inspectors for schools and institutions and if a solitary case be found, to have that individual removed.

CYST OF BROAD LIGAMENT.

DR. CHAS. SMITH, Orangeville, Ont., outlined some of the features we have to deal with in operating on intraligamentous cysts of the broad ligament. The patient, who was 53 years of age, enjoyed good health after operation for a period of five years, when death resulted from an attack of apoplexy.

AFTERNOON SESSION--SECOND DAY.

IMPLANTATATION OF THE URETERS IN THE RECTUM IN A CASE OF EXSTROPHY OF THE BLADDER, WITH PATIENT.

PROF. GEORGE A. PETERS, Toronto University, exhibited the patient, a boy aged 4½ years. At the age of 2½ years he first came under the surgeon's notice, with the condition described in the title and also procidentia recti. These cases are very troublesome, disgusting and loathsome to friends and an operation ought to be performed for their relief. The surgeon first described the cause of these conditions, then took up the operation for the restoration of the rectum, which was done two years ago and now shows it to have been a skilful and beneficial operation to the patient. The scrotum was present and the testicles descended; and a groove descended along the broad and shortened penis down to its tip. At the lower part of the bladder wall, the openings of the ureters could be detected; and the surface when dried would remain dry only from 15 seconds to 1 minute. He proceeded further in the description of the case and then detailed the different steps of the operation. The operation was done entirely extraperitoneally; the incisions in the rectum were made on either side thereof; and the little patient has good control over his sphincter ani, to the extent, that on the day he was shown to the Association, he had passed his urine at 8 a.m., then at 11:30, and again at 2:30 p.m. At night, he will go for four or five hours, without passing anything from the bowels at all. Almost immediately, the rectum manifested a tolerance of the urine. It is now five weeks since the operation was performed, and the bladder is all gone.

MR. CAMERON, the president, thought that this operation was bound to become the operation of the future. Heretofore a good many of these operations have proved failures.

PROF. JAMES BELL, McGill University, congratulated Dr. Peters on the result of this case. He considered it a surgical triumph. The operation for replantation of the ureters has been done for a good many different things; and the question of tolerance of urine in the rectum is still much discussed; but the results shown in this operation are good.

DR. SHEPHERD, Montreal, thought that the operation was an ideal one and congratulated Dr. Peters on the great success he has obtained in this case.

DR. PETERS, in reply, said that we must not lose sight of one point, that there is danger of death from ascending pyelonephritis. That has been the cause of death, when the operation has been done in animals.

CO-OPERATION OF SURGEON AND PHYSICIAN IN ABDOMINAL CASES.

DR. A. L. BENEDICT, Buffalo, took this as his theme and made an interesting presentation of the subject. He cited in illustration thereof several instructive cases in which the surgeon and physician should conjointly treat the patient. He thought it would be infinitely to the advantage of both and also to the patient if many of these cases were handed over for after-treatment to the physician.

The President spoke of the difference between the two callings and thought that every surgeon should serve a considerable apprenticeship in general medicine before reverting to purely surgical work.

SIR WILLIAM HINGSTON said that the surgeon should not make his diagnosis at the time of the operation. Some surgeons when in doubt, cut in. That, to his mind, is almost criminal. He generally finds that men in relation to their youth and experience, diagnose their cases in this way. They often, so to speak, "jump at the diagnosis." The proper way is to go over your case thoroughly, write down what it may be, then eliminate what it is not and by this process of exclusion, you ought always to be able to arrive in the end at a correct diagnosis. Sir William always diagnoses his cases before he operates. He expressed amazement at the rapidity with which some men rush to operate.

GALL-BLADDER SURGERY.

DR. J. F. W. ROSS, Toronto, first exhibited to the meeting a cabinet of gall-stones he had removed in operations and a specimen of a fistulous gall-bladder. He then took up the surgery of the gall-bladder, described the technic of the distinct operations, gave records of his cases and percentages of recoveries and demonstrated many important facts of interest in connection therewith. He also presented for examination an instrument he had recently devised and had prepared in London for the removal of stones from the common bile-duct. In regard to a remark from Sir William Hingston, he took issue with

that gentleman, and stated positively that he did not hesitate, when in doubt, to "cut in."

DR. T. K. HOLMES, Chatham, Ont., spoke of the interest and instruction conveyed in Dr. Ross' paper. When the gall-bladder is enlarged and adherent and the abdominal wall thin, the operation for the removal of gall-stones becomes an apparently easy operation; but if thick or under the edge of the liver far, he knows of fewer operations that will tax the surgeon's strength, than an operation of this kind. He commended Sir William Hingston's plan of exclusion in the diagnosis of abdominal tumors and illustrated on the black-board, an operation he had performed six weeks ago for gall-stones, on a woman with a thick abdominal wall.

PROFESSOR BELL entirely agreed with most of the conclusions of Dr. Ross; but when we come to deal with stones in the common bile-duct, he holds widely different views from Dr. Ross. It is not such a very difficult and serious operation as Dr. Ross seems to think. He reported eight cases twelve months ago and since then he has removed stones in four cases. Two of these have died: one from ether and the other from iodoform poisoning. In no case has he failed to remove the stone and in three of these cases the stone has been lodged in the ampulla. He does not attempt to break the stones.

ADDRESS IN SURGERY—THE RADICAL CURE OF HERNIA.

DR. W. B. COLEY, New York, gave an admirable historical review of this subject. He traced its origin from earliest times, giving dates and names of those concerned in its development, describing *en passant* in detail the different operations performed by the pioneers in this particular branch of operative surgery. Coming down to more recent times, the work of Macewen, Bassini, Kocher, Halsted, and others received detailed attention. The respective operations and improvements of these gentlemen were described and the honor accruing therefrom apportioned. Errors of technic were then dwelt with. Incision of insufficient length both in skin and also in aponeurosis came in for notice. Sutures and suturing and suppuration and the splendid advances which the radical cure has made in the last decade were not forgotten. Instead of a mortality of 6 per cent., we have now one of less than 1 per cent. amongst the leading operators. Five to 10 per cent. now suffer from suppuration. The reader closed his able paper with a concise reference to the operation as applied to femoral hernia, and thought most umbilical herniæ got along better without any operative interference.

A vote of thanks was moved by Dr. Shepherd, seconded by Dr. Peters, to Dr. Coley for having given the Association the opportunity of hearing such an important paper. This was carried unanimously, Mr. Cameron presenting this to Dr. Coley in his usual happy manner and Dr. Coley making a felicitous reply.

THIRD DAY—MORNING SESSION.

ANESTHESIA BY CHLOROFORM AND ETHER.

DR. W. B. JONES, Rochester, delivered a practical paper with this title. He described minutely the preparation of the patient beforehand for the administration of the anesthetic, deprecating smearing the face and nose all over with vaselin. The information regarding the heart did not so much take cognizance of heart murmurs as it did of the muscular tone of the heart and the condition of the arteries. The quality of the blood was of importance. One should know something of the capacity of the chest and the total solids excreted in the twenty-four hours in the urine. Deformities and any partial paralysis should not escape notice and attention. The quantity of the anesthetic employed was dwelt upon. The usual quantity of chloroform is from eight to twelve drops per minute although he has kept up the anesthesia with only four drops per minute for half an hour. Strict attention must be paid by the administrator to his work, particularly following the pupils, respiration and the color of the face. The position of the patient must be such that respiration will not be impeded, the arms not hanging over the edges of the tables and all proper instruments at hand ready for emergencies. The particular juncture at which ether might be successfully changed for chloroform and vice versa received minute description. The surgeon was to understand that the anesthetist "was boss of the job," and neither needed nor should tolerate any interference. The time was ripe for the appearance of the specialist in this branch of medical science; and every large city should have specialists in this line. He further dwelt on the symptoms of impending dissolution and the necessary means to be employed to avert such an accident. The responsibility of the anesthetist is equal with that of the surgeon and he should have a complete knowledge of the operation to be performed and the length of time that ought to be taken to complete every operation.

SOME OBSERVATIONS ON THE TREATMENT OF CANCER.

DR. A. R. ROBINSON, New York, illustrated his subject with a diagrammatic drawing. The paper which he contributed was in support of two papers which he had already delivered in Canada on the same subject, one in Toronto and the other in Kingston. He stated that after a pretty extensive experience in drugs, experimenting for a cure for cancer, there was no single drug known to the medical profession, internally administered, that would exert any influence on one of these growths in any part of the body. Too many cases go on with medicinal treatment when an early application of surgical measures would bring about more beneficial results. There were one or two places where the speaker thought a paste preferable to the knife, i. e., where you can not employ a knife to cut down deep, such as in the region of the nose and on the scalp. Arsenious acid paste is supposed to have more or less of a selective action in epithelioma. Equal parts of this with gum acacia of the consistence of butter should be applied and left on for 16 to 18 hours so as to get the right effect. From this you will get a complete necrosis *en masse* and an inflammatory process, but not an inflammation sufficient to destroy the tissues. Then you get the simple process of granulation. He protested strongly against a remark of Mr. Watson Cheyne that all epitheliomata should be treated with the knife and that alone. In his opinion, the assertion was too sweeping and his statements erroneous. He quoted Marsden in support of his conclusions.

DR. SHEPHERD thinks that in the majority of instances, the knife is the proper instrument. He has not employed escharotics except in a very small number of cases. Cancer in the first place is local and ought to be treated immediately by removal. Nitrate of silver is no use at all. In some cases the knife is not as good as the escharotic, but these cases are very few and chiefly on the face and scalp.

DOMINION REGISTRATION.

DR. RODDICK, who had the subject in hand delivered at some length a detailed plan of the scheme and was followed by Dr. Williams, Ingersoll, Ont., representing the Ontario Medical Council, who moved a strong resolution committing the Association to the carrying out of the plan, seconded by Dr. McNeill, Charlottetown, P. E. I., which was put to the meeting and unanimously adopted amidst great enthusiasm. Dr. Roddick was further commissioned to introduce a bill into parliament at the next meeting of that body.

NOTES OF VARIOUS EUROPEAN CONVENTIONS IN 1899.

DR. R. A. REEVE, Toronto, recited his observations whilst attending the International Otological Convention, the International Ophthalmologic Convention and the British Medical Association's section on ophthalmology. He quoted from four sets of addresses delivered at these meetings and reviewed the discussions that had arisen on different subjects, paying attention to recent advances in these specialties and the newer remedies employed.

SURGERY AMONG THE INSANE.

DR. A. T. HOBBS, Asylum for the Insane, London, Ont., first pointed out the differences in operating on the sane and the insane and the difficulties to be met with in practicing upon the latter. After dwelling on the peculiarities and the manœuvers necessary before an examination will be submitted to on the part of these people, he spoke of the exceptional obstacles which had to be surmounted in order to study gynecology in these unfortunates. The best results were achieved in pelvic inflammations. In anesthetizing at first, chloroform had been employed, but it was found to be invariably weakening for the patient, so that it was abandoned and ether is now altogether given.

DR. ERNEST HALL, Toronto, instanced several operations in his own practice in British Columbia, in which out of 29 cases operated on, 7 were restored to reason. He contended that 92.5 per cent. of insane women have pelvic disease.

CRANIECTOMY FOR MICROCEPHALUS.

DR. W. J. WILSON, Toronto, reviewed the history on this subject and then proceeded to state his own case. The patient, a boy of 4 years, was presented to the members present. The patient was first brought to him in April last. He had then been taking thyroid extract for nine months in 5-grain doses per day and gradually increased until he was taking 20 grains per day. When the doctor saw him he walked bent over almost at a right angle, very excitable, nervous and always "on the go," restless, sleepless and could only say one word, "mamma." It was "mamma" for everything. Operations were done on him in four stages, with the object of preventing shock. Since operation five months ago, he has learned quite a number of words. He can stand erect and shows quite an improvement in every way. This, the doctor thinks is entirely due to the operation, as before, the mother had frequently tried to teach and train him but without perceptible result.

Place of meeting in 1900, Ottawa, Ont.

ELECTION OF OFFICERS.

President, Dr. R. W. Powell, Ottawa.

Vice-President for Ontario, Dr. A. J. Johnson, Toronto.

Vice-President for Quebec, Dr. A. R. Marsallais, Montreal.

Vice-President for New Brunswick, Dr. Meyers, Moncton.

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Treasurer, Dr. H. B. Small, Ottawa, Ont.

General Secretary, Dr. F. N. G. Starr, Toronto.

Orleans Parish Medical Society.

Meeting held Aug. 26, 1899.

UNILATERAL HYPERIDROSIS.

DR. L. G. LEBEUF related a case of unilateral hyperidrosis occurring in a man aged 60 years, suffering from spinal sclerosis. After exertion of any kind the left side of the body is dry, while the right perspires excessively. This is particularly well marked above the level of the fifth cervical vertebra, below which the hyperidrosis is not so noticeable. The trouble dates back thirteen years, to an attack of la grippe, of three weeks' duration, followed by hemiplegia, recovery from which was tardy. There is no history of syphilis.

DR. ISADORE DYER said this was the most extensive case of hyperidrosis he had ever seen. It is not uncommon to see localized disorders of the kind, as for instance excessive perspiration on one side of the lip, so intense as to cause inflammation of the sweat glands, hydradexites.

CARBOLIC ACID IN TETANTUS.

DR. HERMAN B. GESSNER called attention to the treatment of tetanus, with carbolic acid, injected hypodermically. He had received a letter from Dr. E. F. Newell of St. Joseph, La., detailing a case treated successfully by this method. This was a negro boy aged 12 years, to whom he gave 25 m. of a 2 per cent. solution of carbolic acid on the second day. There was immediate relief from chronic convulsions, and a diminution of the tonic muscular contraction. The treatment was repeated twice daily for a week, when the boy was entirely well. Chloral and bromid, which had been in use at first, were discarded on the second day of the carbolic acid treatment. This treatment was brought to the attention of the profession by Prof. H. C. Wood, Jr., in an article published in the May number of *Merck's Archives*.

DR. T. S. DABNEY spoke of the treatment of tetanus with the brains of animals, referring three cases reported as cured by the use of emulsion of rabbit brain.

DR. C. H. TEBAULT, JR., had recently treated three cases of tetanus with serum, all without benefit. In one of these, that of an infant, the injection had been intracerebral. He condemned the use of eserin, which he had seen used in the surgical wards of the Charity Hospital. Of peculiar interest was a case lately seen by him, which ended fatally within twenty-four hours, with subnormal temperature throughout—this was a case of intrauterine infection through unskilled douching.

DR. M. J. MAGRUDER had used serum in one case only; in this the effect seemed to be harmful rather than beneficial. He was interested in determining the cause of the frequency of tetanus neonatorum in midwives' cases. In his own obstetric practice he had delivered two hundred infants without having a case, while he had treated twenty-five or thirty cases in infants delivered by midwives.

DR. H. A. VEAZIE had treated seven cases by plying them freely with liquor, keeping them fully under the influence; all had recovered. Chloral and bromid had also been administered, as well as salicylate of sodium in some cases.

DR. E. M. DUPAQUIER stated that credit for the introduction of carbolic acid in the treatment of tetanus should be given Baccelli, an Italian physician; solution as strong as 10 per cent. had been used by him.

DR. F. PETTIT had not met with success in the use of antitetanic serum as a curative means, but he made it a practice to use it as a preventive in all punctured wounds likely to be followed by tetanus. He believed that the serum had been efficient in this application.

DR. GESSNER read from Lewis Smith's work on Children, a passage describing the great reduction of the mortality from tetanus neonatorum in the Dublin Lying-in Asylum after thorough ventilation had been provided for. Possibly this is not a true tetanus after all, but, as had been suggested to him by Dr. Dupaquier, some other cerebral affection.

Referring to Dr. Magruder's statement about the relative frequency of this disease in midwives' practice, he regretted to say that he had once had a case, in the infant of a cleanly woman whom he had delivered. In this case, however, the stump of the cord had been meddled with by a relative of the patient, who had probably been the infecting agent.

DR. F. W. PARHAM spoke of papers by Drs. Halliday and Sims, attributing the disease to pressure on the head in faulty modes of carrying infants.

DR. DUPAQUIER, referring to the suggestion that the disease in the new-born may not truly be a tetanus, said this had been put forth by a French author, who dwelt on the traumatism to the head of the fetus in its passage through the pelvis, and thought a resultant meningitis might explain the symptoms observed in these cases. As to serum treatment, it had been established that serum injected into the subcutaneous tissues can not be expected to reach and affect toxins fixed by the cerebral tissues. Intracerebral injection must be resorted to for this purpose.

Value of Patient's Estate Not to Be Considered.—The supreme court of Alabama holds that the trial court erred, in the case of Morrisette against Wood, in admitting testimony as to the value of the patient's estate against the objection of the defendant, who was executor thereof. And for this it reverses a judgment recovered for medical services rendered defendant's testator, remanding the case for a new trial. The supreme court says that the inquiry was as to the value of the professional services rendered by the plaintiff, and that the amount or value of the patient's estate could shed no legitimate light upon this issue, nor aid in its elucidation, as the case was presented in the trial court, there being no hint in the evidence that there was any recognized usage obtaining to graduate professional charges with reference to the financial condition of the person for whom such services were rendered, which had been so long established and so universally acted upon as to have ripened into a custom of such character that it might be considered that these services were rendered and accepted in contemplation of it. The cure or amelioration of disease, the court goes on to say, is as important to a poor man as it is to a rich one, and, prima facie at least, the services rendered the one are of the same value as the same services rendered to the other. The statement of the plaintiff as a witness that he knew the defendant's testator, and that he had a certain disease for several years before his death, and that he died of that disease complicated with another, which witness named, the supreme court further holds, involved no transaction with the deceased, and was not within any exception to the competency of parties as witnesses under section 1794 of the code, prohibiting a party from testifying as to transactions with a decedent in an action against his executor.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per Annum, in Advance $5.00
Foreign Postage 2.00
Single Copies . . . . . 10 Cents

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SATURDAY, SEPTEMBER 9, 1899.

THE MICROBE OF YELLOW FEVER.

When Sanarelli announced his discovery of the bacillus icteroides, which he held to be the specific cause of yellow fever, upon rather weak grounds, Sternberg drew attention to the similarity between his bacillus X, isolated from yellow-fever cases, and Sanarelli's organism. Since then evidence has accumulated to show that these two microbes are distinct; this is now Sternberg's opinion[1].

Sanarelli's claims in regard to his bacillus have been confirmed by numerous Italian investigators, including such names as Foà[2]. Most of these confirmatory studies were made in the laboratory and far removed from infected districts. Novy advanced the claim that inasmuch as Sanarelli's organism proved itself very resistant to low temperature, it could not well be the cause of yellow fever, which is a disease of warm countries and warm seasons. Sanarelli[3] ridicules this statement and calls attention to the well-known fact that pathogenic bacteria in general withstand cold well without losing vitality, although no growth generally occurs while so exposed. Certain observations in epidemiology also show that the agent of yellow fever does not lose its vitality in cold, e. g., the occurrence of yellow fever in midwinter and the transportation of the disease by means of ships which pass through severe exposure to cold.

In thirty-two out of thirty-nine autopsies on yellow-fever cases, P. E. Archinard[4] found a bacillus practically identical with the bacillus icteroides, but the agglutination reactions, obtained with the serum of convalescing yellow-fever cases and other diseases, did not, it seems to us, produce as prompt, decisive and constant results, as might be expected and desired, neither in the case of Sanarelli's organism nor that of Archinard.

Then Reed and Carrol[5] published a preliminary note concerning the marked resemblances of the bacillus icteroides to the bacillus of hog cholera in cultural, morphologic and biologic respects. They expressed the opinion that Sanarelli's organism is a variety of the hog-cholera bacillus, and that it should be regarded only as a secondary invader in yellow fever. It is impossible now to go into the details of Reed and Carroll's experiments, but one observation strikes us as very significant, and that is the marked agglutinative reaction shown toward the hog-cholera bacillus by the serum, very highly diluted indeed, of an animal immunized with bacillus icteroides, and vice versa.

In his answer to some of these criticisms, Sanarelli can do nothing but emphasize the great differences between his observations and Reed and Carroll's, especially as to cultural peculiarities and to certain lesions following experimental inoculations; Reed and Carroll obtained typical focal necrosis in the liver by injecting bacillus icteroides, a lesion which Sanarelli had not met with in all his work—if we mistake not, Foà observed the production of necrotic foci in the spleen by the bacillus icteroides—Sanarelli ascribes Reed and Carroll's startling results to some deplorable fault or accident in bacteriologic technic—a point which will no doubt be effectively and completely disposed of.

Sternberg[6] refused to yield to whatever evidence there may be in favor of the specific etiologic rôle of Sanarelli's bacillus because he—Sternberg—did not find it in his researches, employing, as he did, media upon which the bacillus grows readily, because of the similarity between Sanarelli's bacillus and the hog-cholera bacillus, especially with respect to pathogenic action and agglutination, and because serum of yellow-fever patients does not markedly agglutinate Sanarelli's bacillus while serum of immunized animals does in very high dilutions. Sternberg expresses perfect willingness to revise his opinion if Reed and Carroll's observations are shown to be faulty. There is another possible contingency which, perhaps, ought to be taken into account in connection with this, namely, that Sanarelli's bacillus might be the cause of yellow fever even though its resemblance to the hog-cholera bacillus is so pronounced as to apparently amount to absolute identity except possibly in respect to the pathogenic effects on man. However, this is not supported by analogy, and it does not satisfactorily explain the failure of yellow-fever serum to agglutinate the bacillus icteroides as promptly as that of immunized animals. For the present, and as the matter now stands, Sternberg's view that the colon bacillus, bacillus X and bacillus icteroides are

[1] Medical News, August 19, 1899.
[2] Cbl. f. Allg. Path., etc., 1899, x, 524.
[3] Medical News, August 12, 1899.
N. Y. Med. Journal, Jan. 28, 1899.

[5] Medical News, April 29, 1899. [6] Loc. cit.

pathogenic saprophytes occasionally and accidentally present in the blood and tissues of yellow fever would therefore seem a reasonable one. To what extent the results of the work in Havana and elsewhere of the Commission of Medical Officers, U. S. Marine-Hospital Service, of which a preliminary report has appeared[1], will change matters remains to be seen. The preliminary report is very favorable to Sanarelli. The bacillus icteroides was isolated from all the cases of yellow fever which were studied in Havana. While a large number of different animals were found susceptible in the same general manner to experimental inoculation with bacillus icteroides, bacillus X, colon bacillus and Havelberg's bacillus, and their toxins, the commission claims to have established the "natural specificity" of Sanarelli's organism because it proves to be the only microbe which was infectious under natural conditions. The primary infection takes place through the respiratory tract; the infection may remain local in the lungs or it may invade the blood and give rise to a septicemia, the invasion of the blood corresponding clinically to the "secondary paroxysm" of yellow fever heretofore regarded as the result of secondary, mixed infections which, of course, may take place. The commission differs from Sanarelli, who regards yellow fever as a septicemic disease from the start, and from Sternberg, who regarded the gastrointestinal tract as the point of first attack. Theoretically, the primary infection of the respiratory tract may explain the failure of Sanarelli and others to find the bacillus in every case of yellow fever on the assumption that the lungs were not examined carefully enough. The full report of this commission will be read with great interest. In the meantime the relations of the bacillus icteroides to the hog-cholera bacillus should be definitely settled, as much which now seems strange will then become clear.

NAGGING WIVES AND NERVOUS HUSBANDS.

Some years ago one of the health officers of New York City stirred up self-appointed representatives of the "new woman" by his remarks on the production of nervous prostration in husbands by the nagging of wives. The novelists devote much attention to the self-sacrifice of the wife to the hypochondriac husband, but the reverse of the picture is too well known to physicians. The hysteric nagging wife of the insane or neurasthenic husband is a familiar acquaintance. Such women are usually regarded as *fin-de-siecle* products. The puritan matron, like her descendants, however, was often a hysteric. The eighteenth century statutes anent the use of the ducking-stool—which still survive in Delaware—demonstrate the recognition of nagging as an antisocial vice by the fathers of the republic. In the late sixteenth and early seventeenth century, hysterics were far more frequent than is usually supposed, and that minor form of hysteria which takes the direction of motor restlessness was peculiarly apt to voice itself in nagging. Indeed, in the "Comedy of Errors," which appeared in 1593, Shakespeare indicates that, according to popular opinion of that time, husband nagging produced not only nervous prostration but even insanity. In Act V, Scene 1, the Abbess endeavors to ascertain the cause of the alleged insanity of Dromio of Syracuse, in the dialogue with Adriana.

Ben Jonson also indicates the popular belief in the nerve-destroying effects of nagging in his "The Silent Women." (Taine's English Literature.) Morose is an old paranoiac who has a horror of noise but loves to speak. He inhabits a street so narrow that the carriage can not enter it. He drives off, with his stick, the bear leaders and sword players who venture to pass under his windows. He sends away his servant, whose shoes creak. The new one wears slippers with wool soles, and only speaks in a whisper. Morose forbids the whisper and makes him reply by signs. His nephew, whom he illtreats, finds for him a supposed silent woman for a wife. Morose, enchanted by her brief replies and her voice, which he can hardly hear, marries her. As soon as she is married she speaks, scolds, argues, as loud and as long as a dozen women. She orders the valet to speak louder and opens the doors wide to her friends, who arrive in crowds, overwhelming Morose by their noisy congratulations. Morose drives them out, gnashing his teeth and looking dreadfully. Afterward physicians who are called pronounce him mad and discuss his insanity before him in an interesting illustration of psychiatric phraseology of the seventeenth century.

The disease in Greek is called *mania,* in Latin *insania furor, vel, ecstasis melancholica,* that is *egressio,* when a man *ex-melancholico evadit fanaticus.* But he may be but *phreneticus* yet, mistress; and phrenitis is only delirium or so.

While the play is intended to depict a paranoiac with suspicional ideas, it also illustrates the influence which medical and popular opinion ascribed to nagging as a factor in nervous disorder. The Elizabethan dramatists, Jonson, Shakespeare and the rest were very fond of drawing dramatic allusions from current medical science, especially as related to psychiatry.

The most ludicrous appearance of the nagging wife in the literature of the first half of the present century was that of Mrs. Caudle of the famous "Mrs. Caudle's Curtain Lectures," by Douglass Jerrold. Of his hero Jerrold remarks: "Mr. Caudle was blessed with an indomitable constitution. One fact will prove the truth of this. He lived thirty years with Mrs. Caudle, surviving her. The nagging, however, had one serious result. When Mr. Job Caudle was left in this briery world without his daily guide and nocturnal monitress, he was in the ripe fullness of fifty-two. For three hours at least after he went to bed—such slaves are we to habit—he could not close an eye. His wife still talked at his side. True it was she was dead and decently interred. His mind—it was a comfort to know it—could not wander on this point; this he knew. Nevertheless his wife

[1] Journal, August 26.

was with him. The Ghost of her tongue still talked as in the life, and again and again did Job Caudle hear the monitions of by-gone years. At times so loud, so lively, so real were the sounds that Job with a cold chill doubted if he were really widowed. And then, with the movement of an arm, a foot, he would assure himself that he was alone in his holland. Nevertheless the talk continued. It was terrible to be thus haunted by a voice, to have advice, commands, remonstrance, all sorts of saws and adages still poured upon him, and no visible wife. Now did the voice speak from the curtains; now from the tester, and now did it whisper to Job from the very pillow that he pressed. "It's a terrible thing that her tongue should walk in this manner," said Job, and then he thought confusedly of exorcism or at least of a counsel from the parish priest.

The "common scold" of the seventeenth and eighteenth centuries, and the nagger of to-day were expressions of an ill-regulated and ill-balanced nervous system which led to motor restlessness and egotistic inability to see the rights of others. Nagging is far from rare as an occupation disease of school teachers and adds to the school strain of children. It also occurs among the occupation diseases of regular army officers and others in authority. Its worst effects are, however, seen in the domestic circle.

THE PATHOGENESIS OF ACROMEGALIA.

Since Marie, in 1886, first described acromegalia as a morbid entity, it has continued to awaken interest and its literature has steadily increased. Marie's first account, based on two cases in Charcot's wards at the Salpetrière, was exhaustive and left little to be added by later investigators except explanation of its pathogenesis. Under other names the disease was recognized long before Marie's day, for Sternberg has gathered several undoubted cases from literature as far back as 1552. One of Carl von Langer's two classes of gigantism, first announced in 1872, is clearly acromegalia. In 1884 Fritsche and Klebs described a characteristic case, but as an unknown disease. Since Marie's first systematic and accurate description, many reports of cases and explanations regarding its nature have been made.

Of the etiology or its predisposing causes practically nothing is known up to the present time. Its symptomatology is, on the other hand, so well known that nothing further need be said of it here. Its treatment offers little that has hitherto proved satisfactory.

The special interest in the affection at the present moment centers in its pathogenesis. The question, together with a masterly consideration of the whole subject, is discussed by Harlow Brooks of the Pathological Institute of the New York State Hospitals, in an elaborate monograph published in the *Archives of Neurology and Psychopathology,* vol i, No. 4, 1898, issued in July, 1899.

Many theories have been elaborated to account for the phenomena of acromegalia. Of these the author discusses seven, but clearly shows that none of these explanations cover all of the phenomena of a typical case, or are sufficiently constant to warrant their acceptance, except these which have to do with the pituitary gland.

After elaborately considering the comparative anatomy, embryology, histology and physiology of this gland, the writer passes at once in *medias res* in the sentence: "it is manifest that the only reliable key to the unraveling of this rather chaotic mass of morphological alterations in the hypophysis obscuring the pathogenesis of acromegalia is on the basis of function." This is because the great variety of lesions found in the hypophysis can bring about the acromegalic condition only by coincident changes in the gland's functions. If the quantitative changes in the secretion be the basis of consideration, the lesions fall naturally into two groups. The first are those which cause, or are associated with, diminution or suppression of its functions; and the second, those which cause or are associated with its increase. The former include various tumors tending to replace the parenchyma of the prehypophysis as well as degenerative and distinctive lesions of all sorts. The latter include the hyperplasias and adenomas of the prehypophysis.

Rogowitsch, Marinesco and Marie seem to have adopted the theory of atrophy and suppression of the prehypophyseal function, using the thyroid gland and the rôle it plays in myxedema as an analogy. Brooks declares that such an explanation is "flatly contradicted by definite and reliable facts;" for as in a case cited by McAlpin, the entire pituitary body was competely destroyed by a sarcomatous growth, without an approach to any characteristic acromegalic phenomena. The testimony afforded by Boyce and Beadles, as well as the experimental evidences of Vassale and Sacchi, of Horsley and of others, all tend to disprove the atrophic theory. The "error lies in the fact that these instances of sarcoma of the hypophysis in acromegalia are not sarcomata at all. In such cases hyperplasia has been mistaken for sarcoma."

This leaves, then, as the only tenable explanation of acromegalia, hyperplasia including adenoma of the prehypophysis, with an increase of its function and of its functionating cells. The hypersecretion theory was first brought forward by Tamburini, and is not in the least weakened by reason of the so-called compensatory hypertrophy of the pituitary gland occasionally observed in myxedema. In myxedema the increased function of the prehypophysis is only relative, supplying a deficiency of the thyroid secretion, whereas in acromegalia there is an actual increase of prehypophyseal secretion. The relation of this increased pituitary function to the connective-tissue growth, to parenchymatous degeneration, and to the nervous system, is most interestingly and minutely discussed.

THE JOURNAL AND THE CANADIAN MEDICAL ASSOCIATION.

Those in attendance at the meeting of the Canadian Medical Association, held in Toronto, Ont., last week, were profuse in their praise of the enterprise displayed by the JOURNAL in the early publication of the proceedings. They also expressed astonishment at the short period of time which elapsed between the close of the first day's session and the receipt of the printed report. The Association assembled on Wednesday, August 30, and early on Friday morning, September 1, a copy of the JOURNAL containing a complete report of the day's proceedings was handed to each member in attendance.

A CORRECTION.

Dr. Ira Von Geison, of the New York State Laboratory, has repudiated the statements attributed to him in a New York paper, which were editorially noticed in this JOURNAL some weeks ago. His disclaimer, which we are glad to see, is printed in the July issue of the *American Journal of Insanity,* which has just appeared. It is not always safe to treat statements made with the circumstantiality of that of the New York journal as beneath notice, and if Dr. Von Geison had not made this correction the world would have been justified in thinking that the interview was authentic. It would have been better all around if the correction had been made more promptly after the publication.

AN ENFORCED ANTI-SPITTING LAW.

The anti-expectoration ordinance in San Francisco seems likely to hold its own and to be enforced without fear or favor. One offender, who is reported to be a millionaire, has had to undergo his punishment, and the repetition of the offense only made it more severe. If this is not merely an indication of a "sand lots" prejudice against millionaires, and if like even justice is dealt out to the hoodlum who deserves it, as well as to every grade between, San Francisco is to be congratulated. The prohibition of indiscriminate expectoration is one of the most reasonable hygienic regulations, and has, moreover, the advantage of being cosmetic as well as sanitary. It is to be hoped that this pervasive nuisance can be legally checked elsewhere as well as in San Francisco.

THE CENTURY'S ADVANCE IN PHYSIOLOGIC PSYCHOLOGY.

The September issue of *Harper's Monthly* contains an article by Dr. H. S. Williams, on "The Century's Progress in Physiological Psychology." There is certainly a large amount of material for such a review, and Dr. Williams appears to have fairly utilized it. We know vastly more than formerly about the functions of the brain, and the latest developments of our knowledge of its anatomy are suggestive in many ways. We have also become able to measure and register our sensations and have reduced some facts thus obtained to their mathematical expression; methods have been improved and a vast store of facts obtained, but after all we are not so very much nearer an understanding of the real nature of our mental action than before. In fact, as Dr. Williams shows, some of our advances are really only experimental verifications of ideas theoretically advanced many years prior to the beginning of the present century. The quality of mind does not necessarily appear to have improved, though we may know more of its correlated mechanisms. As a popularizer of scientific subjects Dr. Williams is a success, and his paper will open up to a large section of the reading laity a wide range of scientific thought.

EXTRAINTESTINAL INFLAMMATORY LESIONS CAUSED BY TYPHOID BACILLUS.

W. T. Howard, Jr.,[1] points out that among the many typhoidal and post-typhoidal inflammatory lesions in various extraintestinal organs, a considerable number are now known to be caused by the bacillus typhosus, either alone or mixed with other bacteria. He reports three cases of this sort, and states that he has been able to collect 144 cases from the literature, in which the typhoid germ was present in inflammatory foci outside of the intestines; in 20 other cases mixed infections were present, making a total of 164. While some of the older cases are open to doubt, in all the recent ones the Widal test was applied, and in consequence the diagnosis is conclusive. The typhoid bacillus is, therefore, a frequent and important cause of the complications and sequelæ of typhoid fever; in some cases it also causes infectious processes without the necessary presence of typical lesions.

THE TESTIMONIAL AND THE MEDICAL PRESS.

A fine line lies between the testimonial to the effectiveness of a remedy that the manufacturer obtains from the physician to aid in selling the product, and the honest report on the utility of a new agent, derived from the painstaking observation of the clinician whose only aim is to assist his fellow-practitioners in arriving at a correct estimate of the remedy. The line of demarcation can not always be discerned in the face of the testimonial, but can invariably be discovered in the professional reputation and standing of the giver. Unhappily the latter can not often be generally known among the 125,000 physicians of the United States. There remains then as a guide for the reader only the character of the medical journal in which the testimonial appears. Unfortunately there are too many journals which sin in this respect, and still more unfortunately the profession in most cases does not closely discriminate between the wheat and the chaff among its periodicals. We should, however, invariably eschew those journals that devote much space to testimonials of whatever kind as to the effectiveness of proprietary remedies. The clean medical journal does not admit to its columns laudatory articles concerning proprietary remedies, and there is no temptation to laud unduly preparations the making of which is open to all pharmacists. If one cares to read such testimonials, he may be sure that the manufacturer will not cease to keep his desk full of reprints of them.

THE ETIOLOGY OF CIRRHOSIS OF THE LIVER.

Hyperplasia of the interstitial connective tissue of the liver, with secondary contraction, results essentially through the agency of irritating influences conveyed

[1] Philadelphia Medical Journal, July, 1899.

to the organ through the portal vein or the hepatic artery, possibly also through the bile-duct. These influences are principally either toxic or bacterial. Of the former, some are derived from without, as alcohol, lead and highly irritating foods. Bacteria may cause cirrhosis in part directly and in part indirectly, through the poisons they generate. Other toxic substances, generated in the intestines as a result of fermentative processes, or resulting from deficient functional activity of certain organs such as the liver, the kidneys, the skin, may also contribute to the development of hepatic cirrhosis. Sometimes no etiologic factor can be determined. As the irritating cause reaches the liver either through the portal vein or through the hepatic artery, the type of the resulting diseases will vary accordingly, with the development on the one hand of the lesions and symptoms of ordinary portal or atrophic cirrhosis, or on the other of biliary or hypertrophic cirrhosis. Cirrhosis of the liver may also arise in consequence of circulatory or biliary stasis, or of the presence in the blood of particles of dust. The most commonly accepted cause of hepatic cirrhosis is alcoholism, but in a discussion of this subject Rolleston[1] contends that alcohol does not induce cirrhosis directly, but rather by leading to the production of sclerogenic poisons or by enabling such poisons to exert their pernicious activity on the liver.

YELLOW FEVER.

No sooner have we realized that the yellow fever is under control at Hampton, Va., than the news is flashed over the United States that it has developed in at least three other localities. And these cases can in no wise be traced to Hampton. One suspected case, fatal, is reported from Knox County, Ind.; others are at Key West and New Orleans. The probability is that all these cases can be traced to Cuba, although but little of the disease seems to be prevailing there. It has been expected, and we have so claimed in these columns, that hereafter hygienic laws would be enforced, and the disease kept out, or at least would be kept under control. We have no reason to change our views. A complete sanitary inspection of the islands can not be made in one season, nor can the requisite hygienic measures be carried out in a few short months. The rigid measures which have been adopted, and which are being extended throughout the islands, will, it may be expected, completely wipe out the disease. The result of the work already done is so evident that still more energetic measures will do the rest. As far as the present outbreak in this country is concerned no fear need be felt. The active measures put forth so quickly after the appearance of the disease, together with the lateness of the season, remove all possibility of its spread. The marine-hospital service, by its action in its management of the outbreak at the Soldiers' Home, and by its energetic work at the present time, shows that this bureau is always on the alert, and prepared to do active work when required. This is necessary so long as there is any disease in any part of Cuba, for, with the greatly increased intercommunication, a rigid quarantine against all the ports is almost an impossibility. It must not be forgotten, also, that the present epidemic, especially as far as New Orleans is concerned, may have had its origin on the Isthmus of Tehuantepec or at Vera Cruz, where the disease is prevailing.

[1] Quarterly Medical Journal, 1899, p. 299.

MICROBES IN MILK.

The question of milk infection has been prominently to the front of late, especially in connection with tuberculosis. It is a matter of some little interest, perhaps, to know that bacteria are pretty generally present in milk, even before it is drawn from healthy cows. Some of the earlier observers who recognized this fact maintained, nevertheless, that these organisms only existed in the lower milk-ducts, the teats and the lower part of the cistern, and that the last milk drawn was sterile; in other words, that the infection was probably from without, in the normal condition. Later observers have not confirmed this view and in the last volume of the "Transactions of the American Microscopical Society," Mr. Archibald Ward reports some tests that appear to be conclusive. Not satisfied with making cultures from the milk drawn under antiseptic precautions, he, in connection with Dr. V. A. Moore, made bacteriologic examinations of the milk from the remoter glandular tissues of the udder, the samples being taken under due precautions immediately after slaughtering the animals. Bits of tissue were also detached with flamed scissors, and transferred to culture-media by the aid of a flamed platinum loop. In the cultures thus obtained it was found that the same organisms frequently occurred in the fore milk and in each of the three parts of the udder, and that in all of the six apparently healthy cows thus examined there were found bacteria in the depths of the milk-secreting tissue. Most of the pure cultures were found to belong to some one of three species of micrococci, and Holmes concludes that these organisms are pretty constant inhabitants, and if reduced in number by one milking, enough are left to produce the original abundance before another. The practical bearing of these findings is obvious. If normal milk is never sterile, it is quite possible that it may not always contain only innocuous species. Indeed, in one cow Ward found a streptococcus rather persistently present, and in another a culture of bacillus prodigiosus introduced into the milk cistern was detectable for six days. The chances of udder infection from without are numerous, and further study of milk bacteriology at its source is very desirable.

THE ASSOCIATION BUTTON.

After considerable delay, the ASSOCIATION button is now ready. It is in every way attractive, handsome, and above all, appropriate, and for the reason that a large number were ordered at one time, can be sold at the low price of one dollar. It is hoped that every member of the ASSOCIATION will place one of these adornments on the lapel of his coat before the snow flies, and to assist in bringing about this much desired result, an offer is made in our advertising columns. We refer those who are anxious to help build up the ASSOCIATION to the offer there made. It will not be inappropriate to quote from the report regarding this button, made to the ASSOCIATION at Denver a year ago by

Dr. Richard French Stone. Dr. Stone obtained letters patent for the leading features of the design, which patent he has turned over to the ASSOCIATION. The following is from his report: "We can readily see how the wearing of such means of permanent identification might be of much service in arousing a spirit of fellowship that would be helpful in bringing the members of the ASSOCIATION closer together. It would serve to fix attention and direct thought to the interest of the ASSOCIATION during the intervals between the annual meetings, and would prove suggestive of matters pertaining to its growth and development. To meet this requirement I herewith send you for consideration and adoption what is believed to be an appropriate gold and enamel finished emblem. Please observe that the device is in the form of a circular shield, having for its central feature a spear-pointed cross, opposite to the arms of which are the initial letters of 'Member of the American Medical Association.' The circular shield and spear-pointed cross typify the protective armor of the period in which medicine had its origin. The cruciform center not only typifies the great advancement of the profession during the Christian era, but was also the ideographic sign or symbol of life and of the 'Healing Art' in ancient Egypt, Greece, Rome and other nations of the greatest antiquity. The initial letters and the enameled national colors (red, white and blue), sufficiently symbolize the nationality of our ASSOCIATION. For these reasons it is believed that the design represents the origin, history, traditions and province of our profession, as well as the national character of our organization in the fullest sense, and that the emblem constantly worn as an ornate coat-lapel button (or scarf-pin), will serve at all times and on all occasions throughout the world as a distinctive method of social and professional recognition, thus securing the many advantages resulting from this identity."

SANARELLI'S AUTOBIOGRAPHY.

One of the enterprising New York dailies had in its last Sunday's edition a history of the alleged discovery of the yellow-fever bacillus, written by the discoverer himself, Sanarelli. While it is hard to believe that any one, much less a true scientist, would write in such a self-laudatory style, still we are compelled to believe this in this instance, for the article is introduced with an editorial statement to the effect that it "was written by Prof. Giuseppe Sanarelli, and it may be considered the first authentic autobiographic statement made by the discoverer of the bacillus of yellow fever." The writer states that he was born at Monte, Sept. 20, 1865, and that after preparatory studies, he entered the University of Siena, that his graduation thesis had for its subject the etiology and pathogensis of morose infection, "which thesis I am proud to say was afterward printed and published at the expense of the government." Sanarelli then tells us that after his graduation in 1889 he went to Pavia to study under the "famous Professor Golgi," then to Munich, and from there to Paris. During this time he published many valuable monographs "which are well known to all students of bacteriology." He tells us that his rise was now rapid, for at 29 he was called to the chair of hygiene in the University of Siena, and soon afterward, in 1895, he was invited to the University of Montevideo, Uruguay." "And let me here say that, if I left a brilliant position and still more brilliant career in my mother country to accept the invitation of the Montevideo University, it was because I hoped in the new world to face and grapple the great problem of exotic pathology, which had occupied and tormented me for a long time—the problem of yellow fever." He then refers in a half sneering way to Drs. Sternberg and Friere's long-continued efforts to discover the germ of yellow fever. Speaking of the former, he says: "At the end of ten years of labor he declared his mission accomplished and published a minute and detailed report, which resulted in showing failure and insuccess." Of Friere's labors he says: "he was compelled to publish a report devoid of all scientific interest or importance." Then the writer tells the world what brilliant work he did in a short time: how in June, 1897, he communicated his discovery to the scientific world, and how his success created great surprise, and caused many to be incredulous And so on. He closes his communication by stating that he rejoices to learn that the United States, after an excessive period of inactivity, is commencing to do something toward emancipating itself from that dread scourge. "My personal satisfaction is great, for this awakening and consequent acting will save me from the fate of the majority of the scientists of my country—the fate of recognition and justice after death." The whole article reads so much like the writings of a quack that we feel loath to believe that it is really printed as Sanarelli wrote it. The great big "I" and little "u," the self-praise, the conceited references to his own work, not only in the investigation of yellow fever—for he claims to have revolutionized the views held as to the etiology and pathogenesis of other diseases, especially typhoid—and the sneering supercilious manner in which he alludes to others, make one feel like pitying him. If a young man only 34 years old had accomplished all and more than Sanarelli claims to have accomplished he could only lower his reputation by such self-praise. Allowing for a certain foreign ignorance of American ideas of propriety, this effusion still leaves behind it a rather unpleasant impression of his personality.

Medical News.

DR. JOHN T. MANGE of Baltimore has been elected chief of the gynecologic clinic of the Baltimore University School of Medicine.

THE GOVERNMENT hospital ship *Relief* has been condemned by the local inspector of steam vessels at San Francisco. The vessel was pronounced unsafe for ocean travel.

THE APPEARANCE of yellow fever in New Orleans, it is said, is reviving the rigid quarantine regulations which have caused in the past so much disturbance of business and other matters in the South. However, only two cases have thus far been definitely reported, with one death.

MRS. MARY SANSONI, a leper, who has offered those interested in leprosy a chance to study the disease, died in Baltimore last Tuesday, aged 32. She had been isolated in a hospital in Baltimore for two years.

LATEST reports are to the effect that yellow fever is spreading at Key West. Five deaths have occurred.

DR. A. T. HAIGHT, Chicago, has just returned from Europe. He attended the International Otological Congress and read a paper before that body.

MUNCIE, IND., has no hospital, but the physicians and the public-spirited citizens there are agitating the question of building one, and it is hoped that the city council will act in the matter and either build or assist in building one.

NEWS BY way of Madrid states that one case of the plague has developed in the prison at Oporto. Much uneasiness exists at the infected place relative to the sanitary cordon maintained, and already one of the guards has been shot from ambush.

ON SATURDAY, September 2, the Chicago Lying-In Hospital, 294 Ashland Ave., opened its doors to the public. Emergency cases from any part of the city are received there at any time. The president of the Association, having the institution in charge, is Mrs. E. C. Dudley, 1619 Indiana Ave.

THE PORTUGESE steamer *Oevenum,* from Oporto, Lisbon and St. Michaels arrived in New York on September 1, having on board ten cabin and fourteen steerage passengers. Owing to the existence of the bubonic plague at Oporto the vessel was ordered to the quarantine station for disinfection.

THE FOUNDATIONS are being laid for the construction of a new annex to the Isabella McCosh Infirmary of Princeton College. The building will be three stories high, and constructed of limestone and brick. It will be used for contagious diseases. When completed the additions will have cost about $20,000.

PROF. WILLIAM F. SMITH has resigned the chair of anatomy in the College of Physicians and Surgeons, Baltimore, on account of ill-health. Dr. Isaac R. Trimble has been elected to fill the vacancy. For some years Dr. Trimble has held the chair of anatomy and clinical surgery at the Woman's Medical College.

ANOTHER death attributed to Christian Science treatment has occurred in Scranton, Pa. Death is said to be due to cholera infantum, and the mother, being a Christian Scientist, refused to call a physician. The funeral was announced to have taken place on August 27, but the services were prevented by the coroner, who ordered an investigation made.

IT IS reported that Dr. Andrew von Grimm, adjunct professor of diseases of children at the Post-Graduate Hospital of New York, while recently performing an operation on a child suffering from diphtheria had the misfortune to be severely bitten on the finger, from which septicemia subsequently developed, and at last accounts his condition was pronounced serious.

THE MEMBERS of the Andrew G. Curtin Association of Army Nurses held a meeting in Philadelphia on August 28, to take some action relative to the entertainment to be given the members of the National Association of Army Nurses of the Civil War, and who were to be in attendance at the G. A. R. encampment held in that city. A tablet will be erected at Fernwood Cemetery in memory of deceased members.

JUDGE GAMBLE of Iowa who recently delivered a decision in the case of a traveling practitioner, that the Medical Practice Act of the State was unconstitutional, has sent his opinion to the State Board of Health. He bases his opinion on certain New Hampshire cases, and declares the law class legislation. The attorney-general, it is said, maintains the validity of the act and the supreme court will have to make the final decision.

ALTHOUGH the city of Philadelphia and other cities of Pennsylvania have dispatched a vessel laden with supplies to the distressed of Porto Rico, which has been fitted out at a cost of thousands of dollars, it is now proposed that another similar one be sent to that country. Already contributions are pouring in, the latest being a gift of $1000 by the citizens of Erie. The sum now on hand amounts to $30,243.21.

IT IS SAID that the Illinois Society for the Prevention of Consumption is preparing plans for the establishment of a state sanatorium for the treatment of this disease, and a bill will be introduced into the next legislature for an appropriation for this purpose. The movement, it is said, has the support of Governor Tanner, and the forthcoming report of the State Board of Health will give the facts of the needs of the State of Illinois in this direction.

ACCORDING to the *San Francisco Examiner,* Dr. Alonzo Taylor of the University of Pennsylvania, will become the head of the Department of Medicine in the Affiliated Colleges of the California State University. Dr. Taylor, it is said, will make a special study of the requirements of the medical department as to equipments, etc., and will then go to Europe and spend some time in gaining ideas and facts from the best German universities.

JOSEPH FUNK, a resident of Philadelphia, has secured a writ of habeas corpus against the attending physician to the Muncipal Hospital of that city to show cause why his two children, suffering with scarlet fever, who he avers were removed from his house without his consent and against his will, should not be taken away from that institution. Judge Pennypacker, who granted the writ, made it returnable on Friday, September 8, when the complaint was to be heard in open court.

BY ORDER of Surgeon Anita N. McGee, in charge of the army nurses, instructions have been issued regarding the kind of uniform to be worn by them. The uniform consists of a waist with adjustable cuffs, and an apron of white linen, worn with a skirt and necktie of army blue galatea. A jacket of the galatea style is also provided. Caps are not to be worn. Chief nurses are entitled to wear in place of the apron a sash of red silk, knotted around the waist. The badge of the nurses' corps consists of a modified form of Greek cross.

ON AUGUST 29 the coroner's jury in the inquest into the death of James McGuire, a paretic patient in the Manhattan State Hospital for the Insane, on Ward's Island, rendered a verdict to the effect that his death was caused by undue violence at the hands of three attendants. The coroner committed the three men to the Tombs, to await the action of the grand jury, while another attendant was sent to the House of Detention as a witness. In view of the medical testimony presented at the inquest this action certainly seems unnecessarily harsh, but at the same time it is only proper that every case of this kind shall receive a very thorough investigation.

A SLIGHT epidemic of anthrax among cattle has appeared in southern Chester County, Pa. In one herd five cattle have died. The disease has also appeared in the region of Chambersburg, four cattle and two horses having died within the past few days. It is now feared that one of the owners of the cattle may have been inoculated with anthrax while burying an animal affected

with the disease, for at present he manifests symptoms of the disease and his condition is serious. An epidemic disease, the cause of which is as yet unknown, also exists near Allentown, Pa. Among a herd of 200 Jersey cattle belonging to one farmer, 70 afflicted animals have died. In some respects the affection is said to resemble anthrax.

AN INSTITUTION peculiar to Philadelphia is The Philadelphia Medical Corps. Organized in 1887, it did excellent service in connection with the centennial celebration of the constitution. It has its volunteer surgeons on hand at every great gathering to do gratuitous service when called on in an emergency. During the Peace parades last year its services were especially noticed. At the Grand Army Reunion, held during the past week, the value of this organization was to be again tested. It is a purely philanthropic organization, receives no rewards and asks no aid except occasionally calling on a bystander for help in special cases. It is, therefore, a credit to the city and one that should be duly appreciated.

THE "CHRISTIAN SCIENTISTS" held a meeting in Jersey City recently and, according to the *Buffalo Medical Journal,* some remarkable cures were reported. One of these was vouched for by an old woman, who, prefacing her remarks with a statement of her undying belief in the efficacy of prayer, said she knew a man in Texas who had spilled acid in his eyes. The eyeballs were so badly injured that both were removed by surgeons. The owner of the eyeless sockets became a believer and by means of prayer new eyeballs grew, and now the man can see as well as anyone. No wonder these people get patients, when they can perform such remarkable feats. We are patiently waiting for the raising-of-the-dead report.

A CURIOUS fact is reported by the *Medical Press and Circular* in regard to the assault on M. Labori, Dreyfus' counsel. He was in charge of Dr. Réclus, a distinguished French surgeon, who was called by the family. Among those who shared in the excitement on the night of the attempted assassination was M. Doyen, another prominent French surgeon, who immediately seized his instruments and took the next train for Rennes and succeeded in obtaining an interview with the patient, which, it is said, was not allowed to take a professional turn, though in taking leave "he placed himself at the patient's disposal." The action has stirred up an ethical controversy in which, it is said, Dr. Réclus very emphatically expressed his opinion.

ACCORDING to the official report of Surgeon-General Wyman, pilgrims returning from Mecca have been attacked by bubonic plague, which is said to have been due to inexcusable negligence of taking even the ordinary precautions against the disease. It is said that the danger of the spread of contagion is especially great at the second annual pilgrimage, because those who return must first undergo examination at the quarantine stations. In order to evade these requirements many of them escape into the surrounding countries, thus conveying the disease in all directions. It is further stated that on board a vessel loaded with 1200 pilgrims there recently occurred four deaths, which were unmistakably due to bubonic plague. The Turkish health authorities are much afraid that the disease will be carried to many districts by rats and vermin, hordes of which swarm around the vessels of the carrying trade. The plague now exists in the following different countries: Japan, China, Egypt, India, Persia, Turkey and Portugal.

MEDICAL STUDENTS ACCUSED OF PRACTICING FRAUD. —*The Philadelphia Press,* in its issue of September 3, contains an accusation which if proved to be true will react very unfavorably on the candidates who recently passed the examination prescribed by the Board of Medical Examiners of Pennsylvania. This paper charges on information furnished it that the students of at least two of the medical colleges of Philadelphia had been provided with all the questions asked by the Board previous to the examinations. It is not definitely known as to how the questions were obtained, but the idea is hinted at that the sum of $500 was placed in the hands of the printer at Harrisburg, and that the questions were then transferred to probably one of the students, representing a clique, to be subsequently sold to the candidates intending to present themselves before the State Board of Medical Examiners. It is charged further that these questions were circulated widely. A recent graduate in medicine—whose name is not given—stated that papers containing the whole set of questions were offered him for $2.50.

Correspondence.

Inebriety a Disease.

HARTFORD, CONN., Aug. 26, 1899.

To the Editor:—The question of vice and disease in inebriety was first agitated in this country by Dr. Rush of Philadelphia, in 1809. He asserted that all inebriety should be regarded and treated as disease. This was called a wild, infidel theory. In 1829, Dr. Todd secured the passage of a resolution in the Connecticut State Medical Society, declaring inebriety a disease requiring medical treatment. This was termed rank heresy and so bitterly denounced that nothing more was heard of it. In 1854, Dr. Turner's project of an asylum for the medical treatment of inebriates as diseased, roused a more severe criticism. This continued with varying intensity until 1870. At this time the Association for the Study and Cure of Inebriety was organized, and its declaration of principles pronounced inebriety a disease, and curable. The religious press denied this with great bitterness, and denounced the Association and its members as enemies of truth. The medical press followed with sneers and contemptous silence. Even the temperance advocates joined in denying the disease theory. These extreme criticisms and denials of disease finally reacted into a half vice and half disease theory, which is urged by many persons up to the present.

The publication of the *Journal of Inebricty,* in 1876, was the occasion for a new outbreak of most acrimonious criticism. For several years the *Journal* and its writers received, with each issue, what was intended to be a destructive criticism and condemnation of its purpose and work. As chairman of a committee appointed by the Association I personally urged the leading opponents of the disease theory to present the evidence of the vice origin of inebriety in a scientific form for publication in the *Journal.* Beyond a few dogmatic statements of opinions, nothing was offered, while on the other side over fifty physicians presented the history of cases and studies of the various physical conditions and causes of the disease of inebriety. For over twelve years many facts were grouped and examined in the issues of the *Journal,* and in other publications. The conclusions were so unanimous that further discussion was useless. Hence, from 1890, little attention has been given to the former denials and assertions of the vice origin of inebriety. Yet moralists, clergymen, and occasionally a sadly belated physician, refer to the topic again as if it was new, and the advocates of the disease of inebriety were all ignorant extremists. They are unaware that all these theories and opinions

have been settled by an appeal to the facts, and the question is, what are the teaching of these facts, not the opinions of the advocate? This is a curious repetition of the same criticism which has followed the recognition of the disease of insanity. Six years ago a noted divine denounced the physical origin of insanity, and declared that vice and wickedness were the most common causes. Less than three years ago a physician urged that the insane were pampered and made worse by luxuries, and that insanity was more vice than disease, and that harsh remedies were the true means of treatment. By some persons inebriety is regarded, in the same way, as a vicious indulgence of the appetites, which can be checked at any time. Fortunately the questions of acts and conduct are not settled by theories and opinions. The study of the inebriate is a question of facts and their meaning, which every year is clearer and can be determined with more exactness. If there is a case of vice origin in any inebriate it can be proven with a great degree of certainty, and the *Journal of Inebriety* will gladly publish all such records. They will be new to the scientific world.

T. D. CROTHERS, M.D.

The Neurotic's Diet.

NEW YORK CITY, Aug. 31, 1899.

To the Editor:—The article entitled, "The Neurotic's Diet," by Henry C. Eyman, M.D., is good reading, and I shall reproduce it with due credit in the *Dietetic and Hygienic Gazette*. Dr. Eyman says: "There is no doubt of the efficacy of raw meat, dry bread and hot water, exclusively in the very common acid dyspeptic states, while plethoric individuals with irritated kidneys and the neuralgic twinges of the uric acid condition, will just as surely obtain relief by the use of farinaceous food and nuts."

Who uses raw beef when he can obtain it cooked? What physician is foolish enough to prescribe a food uncooked, unpalatable, not in a condition for digestion and liable to provoke the presence of tapeworm in the body? Occasionally I come across this statement of the use of raw beef; physicians also ask, "how do you get your patients to eat raw beef?" The reply is that I never ask them to, but, when it is necessary to feed a patient closely on beef preparations, I have them broiled and palatable. I understand that in some of the European sanatoria inmates are stuffed to disgust with raw beef; this is hard treatment and unnecessary. Are any American physicians doing it?

As to "plethoric individuals with irritated kidneys and the neuralgic twinges of the uric acid condition," I have found such to do better on beef foods with the careful admixture of other foods, watching the blood and urine under the microscope.

Yours fraternally,
JOHN A. CUTTER, M.D.

London.

(From Our Regular Correspondent.)

LONDON, Aug. 22, 1899.

THE OTOLOGICAL CONGRESS.—This congress held in London the past week, under the presidency of Dr. Urban Prichard, had a most successful meeting, 300 aurists from all over the world, having been in attendance. Such names as Politzer Knapp, Hartman, Luc, Macewen, Malherbe, adorned the program, and so great was the pressure of papers that extra sessions had to be held to accommodate them all. Many of the foreign delegates came the week before and attended the British Medical Association at Portsmouth. The social side of the gathering was most elaborate; congratulations were sent to the Queen, and the festivities closed with a visit to Windsor and an entertainment on the prettiest part of the River Thames, by Dr. Field.

One of the most amusing things about the Congress was the frank and outspoken astonishment of the lay press that such a large body of scientists could assemble from such remote distances, merely to discuss such a limited subject as diseases of the ear. The newspapers were never tired of referring to "Specialism Ultraspecialized," and wondering more or less openly and naively how the members were going to fiill up their time in session. As the frank and innocent *Daily Chronicle* expressed it: "To the mere layman it is almost incredible that diseases of the ear should command the minute attention of a holiday-making crowd of highly cultured gentlemen addressing each other in all the languages of Europe for six hours a day during an entire week!" The superbly sesquipedalian terminology of the science impressed them hugely, chiefly because it was hopeless to attempt to understand it, and they noted with awe that all this prodigious accumulation of learning has been created within the past fifty years. Perhaps there was some show of reason for their astonishment, as it must be confessed that this new branch of the medical art, hopeful and valuable as its work has been, has so far not yet made itself illustrious to the popular eye by its practical triumphs.

There was a singular dearth of specially striking papers read on new discoveries announced during the session although the general standard of the communications was high and the discussions were most animated. The chief advances noted by the president in his address were in prophylaxis of chronic middle-ear trouble and greater mastering of suppurative otitis, especially with reference to preventing cranial complications. Hartman, at Berlin, reported two interesting cases of congenital absence of the external meatus and one acquired atresia of the meatus resulting from post-scarlatinal suppuration. The entire morning was given up to a discussion on the always exciting and somewhat venerable question of when to open the mastoid in chronic suppurative otitis media; an operation which is claimed by the general surgeon nowadays as belonging to his sphere. The museum was superb, the British section alone containing over 2000 preparations.

CONTROL OF OYSTER BEDS.—The failure of Mr. Chaplin's excellent bill for the control of oyster beds is a source of much regret to the English profession and to sanitarians generally. It came by its death in that belated survival of the Middle Ages, analogous to our intelligent and disinterested Senate, the House of Lords. The report of the now famous commission on oysters as a cause of disease was clear and urgent enough to secure for the bill a large majority in the House of Commons, but of course had little weight. It was killed by an amendment which referred its carrying out to a board of fisheries which has no jurisdiction over nearly half the areas in which beds are laid in the kingdom and these areas the most liable of all to pollution by sewage.

PROFESSOR OGSTON'S INDICTMENT OF THE ARMY AND NAVY.—The bold and vigorous indictment of the army and navy authorities for their contemptuous treatment and inadequate provision for the medical staff, by Professor Ogston, in his address in Surgery at Portsmouth, is still being widely commented on. Indeed, the unfavorable impression produced by it is both widening and deepening as the controversy goes on, and it really looks as if the sluggish authorities would have to take action in the matter and that speedily.

UNSOUND TEETH AND THE ARMY RECRUIT.—The announcement that over seventeen hundred English recruits were rejected on account of the condition of their teeth sounds appalling, until we discover upon inquiry that this apparently large number was the residuum of nearly 80,000 examinations, or barely 2 per cent. of the men examined. And as it only takes three badly decayed or missing teeth to disqualify a recruit, the bubble of physical degeneracy, so far as this proof of it goes, collapses into its constituent thin air and froth. We have long been most suspicious of the popularly accepted dictum, that our modern teeth are degenerate and degenerating. It is one of those pseudoscientific conclusions which sound well, harmonize with all our traditional nonsense—dating from the glacial epoch—about "these degenerate days" and man's fallen estate, and hence appeal powerfully to the popular mind.

Canada.

(From Our Regular Correspondent.)

TORONTO, Sept. 3, 1899.

CANADIAN MEDICAL ASSOCIATION.—The largest, the most enthusiastic, and the most profitable meeting ever held in the history of this organization was that which after "three days of solid enjoyment" closed its final session at 1 o'clock on Saturday morning. Contrasting the numerical representation with that assembled in the city of Quebec last year, over three times as many delegates were present at this year's meeting as at the last annual assemblage. From the moment Dr. A. J. Johnson, chairman of the committee on arrangements, announced the entertainments that the committee under charge of Dr. Bruce L. Riordan had arranged for the enjoyment of out-of-town members, the visitors completely abandoned themselves to a pleasurable participation in the several functions. On the evening of the first day, the beautiful halls and apartments of the museum of the Normal School were thrown open; a fashionable company soon surged and thronged through its magnificently spacious compartments, invitations having been extended to many of the city's best-known families. A musicale and reception was held in the theater, presided over by the chairman of the committee on arrangements. In his usual eloquent and brilliant style, Dr. G. W. Ross, Minister of Education of Ontario, welcomed the members and their friends to those time-honored and classic halls; in the name also of the Ontario Government, of which he is an acknowledged leader, he welcomed the representatives from the other provinces of the confederation and spoke of the mighty factor for good the physician was in the community. Mr. Cameron, president of the Association, made a particularly happy acknowledgement.

The afternoon of the second day was close and oppressive, which proved a decided incentive to a pleasant sail across Toronto Bay to the island home of the Royal Canadian Yacht Club. On one of their extensive lawns, a marquee had been erected, within whose shady bower, seats and tables were tastefully arranged, for the enjoyment of those good things, cool and nice and dainty. The city's "society" physicians and their ladies contributed to making this function very successful. The city fathers also showed their hospitality and good cheer. The steamer *Chippewa* was chartered by the City Council and an enjoyable sail around the island and out into the lake on the evening of Thursday was greatly appreciated by members from a distance. About 9:30 the vessel stood off at anchor from the grounds of the Industrial Exposition, where a magnificent view was afforded of the nightly fireworks and the battle of Omdurman. On the afternoon of Friday, the directors of the exhibition invited the various committees and the officers and visiting members from the other provinces and the United States to luncheon; and all the members of the Association and their wives and lady friends, together with the delegates from abroad were given free passes to the grounds, with reserved seats on the grand-stand, where a delightful performance in the ring, with both running and trotting races, caused the profession to forget sorrow and the heavy work of the morning session. The Toronto Golf Club also extended its hospitality to the members.

The splendid array of pathologic specimens reflected deserved credit on the chairman of that department, Dr. A. Primrose, Toronto. Trinity Medical College, the Medical Department of Toronto University, McGill University and private members loaned specimens which proved instructing and interesting.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.—On all sides were heard expressions of pleased surprise at the commendable enterprise displayed on the part of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION in having a copy of its issue of Saturday, September 2, containing a telegraphic report of the first day's proceedings, placed in the hands of each member of the Association present at the beginning of the morning session of the third day, September 1.

DOMINION REGISTRATION.—On the third day Dr. Roddick dealt in detail with a Dominion federated council. Each province is to be represented on the central board by three members. The committee recommended this plan of giving equal representation rather than the plan of representation by population. All the provinces are to retain their present systems, their respective medical councils not being interfered with in any way whatsoever. Should a physician become licensed to practice, for instance, in the Province of Ontario, he needs no other license so long as he desires to continue in that province; but should he desire to have the privilege of practicing in any other province of the Dominion, he must obtain his authority to do so from the central licensing board, to be situated presumably at Ottawa, the capital of the Dominion of Canada. All practitioners in any province of the Dominion, who have held their licenses to practice for at least ten years, may at any time after the adoption of this scheme by the Parliament of Canada, present themselves before this board and obtain licenses to practice in any province of the Dominion; but should a physician only be in practice, say for seven years, he will have to wait three more years before he can obtain such a license. This seemingly retroactive clause applies to present licentiates. The bugbear in the whole matter seems to be the standard of the preliminary education, delegates from some of the provinces being afraid that the standard of the central body might not be high enough.

THE BRAIN OF MURDERER PARROTT.—Before giving the notes on the examination of the brain of this matricide, a short résumé of the case may be in order. Aged 32, by occupation a carter, this man was tried at the last assizes in Hamilton for the murder of his mother, who had been dispatched with an axe in the hands of the accused. At the trial, the plea of insanity was set up and Dr. Russill and Dr. Daniel Clark, of the Hamilton and Toronto Asylums, respectively, were summoned to examine the patient and report, on behalf of the defense. Dr. Russill states that he found the prisoner of a low intellectual order, his normal sense being of a still baser grade. At first he denied all recollection of the deed, but subsequently confessed and told the two experts all about it. He said he should have done the deed long ago, and spoke brutally of his mother. He said he had been a hard drinker for years and was drunk the day the murder was committed. On June 23 last, he was hanged, and his body was given over to the jail surgeons, Dr. Balfe and Dr. Wallace of the Hamilton Asylum for the purpose of a post-mortem. He weighed 160 pounds and was 5 feet 8 inches in height. The tips of the fingers could be thrust into the interval in the broken neck. The scalp was abnormally thick; calvaria also thicker than the average, being slightly asymmetrical in the occipital region. There was no difficulty in separating it from the dura. The Pacchionian bodies were very numerous and very adherent. Over the parietal regions, the pia was noticeably milky in appearance and when the brain was being lifted from its position, posteriorly, the medulla and the pons and adjacent parts were seen to be of a deep red color, there being quite an extensive extravasation of blood. The spinal cord was torn through about two inches below the lower margin of the pons, being attached to the nether portion by the pia mater alone. On passing the finger through the foramen magnum, the atlas was in its proper position, while the axis was with the lower part of the column and the odontoid process intact upon it. With the finger still in the foramen, no fracture of bone could be detected, the gap being due to the separation of the vertebræ. The brain weighed fifty ounces, and the convolutions were broader than the average. Section of the brain was perfectly normal and healthy in every respect macroscopically. The pupils were equal, about half way between extreme dilatation and contraction.

SKIN CLINIC AT ST. MICHAEL'S HOSPITAL.—The skin clinic at St. Michael's Hospital at 9 o'clock on the morning of the sec-

ond day, was an important feature of the meeting, and was well attended. Refreshments were served, and the members of the Association present spent a very pleasant and profitable hour examining the patients. There were about thirty cases shown, and among them were several rare skin diseases, such as dermatitis herpetiformis, larva migrans, urticaria pigmentosa, hydrocystoma, hydradenitis, favus, molluscum contagiosum, exfoliative dermatitis following psoriasis. Drs. A. R. Robinson of New York, Shepherd of Montreal, and Graham Chambers and A. McPhedran of Toronto took part in the discussion of the cases.

TUBERCULOSIS CONTINUED.—Supplementing the information already given in the JOURNAL of August 26, p. 560, regarding the attention the profession in Canada is bestowing on this subject, some mention ought to be made of two able articles emanating from the respective pens of Dr. A. D. Blackader, Montreal, and Dr. H. McL. Kinghorn, Saranac Lake, N. Y., both published in a recent issue of the *Montreal Medical Journal*. The article by the first-named gentleman, "On the Treatment of Tuberculosis," gives a historic account of the open-air method of treatment, deals with tuberculin and specific immunity, and mentions experiments of Maragliano of Genoa, Paquin of St. Louis and Stubbert, at the Loomis Sanitarium, with serumtherapy. And further, diet, cod-liver oil, hydrotherapeutic measures, strychnin, creosote and ichthyol in keratin coated pills, in daily doses of from 6 to 10 grs., all receive ample attention. Reverting to chest protectors, the essayist quotes Ransome, who asserts that the best procedure in this direction is douching the chest well, night and morning, with cold salt water. "The Results of Sanatoria and Special Hospital Treatment in Pulmonary Tuberculosis," are dealt with by Dr. Kinghorn for the special benefit of Canadian readers. After dwelling for some length on the cases denominated "cured," "apparently cured," "disease arrested," and "improved," the writer gives in tabulated form, the statistics of nine sanatoria for the treatment of pulmonary tuberculosis. In this table, the Gravenhurst Institution, Muskoka, where up to that time the mortality had been *nil* or not given, the "cured" is represented by 14.45 per cent, the "disease arrested" by 27.7 per cent., the "improved" by 34.93 per cent., and the "unimproved" not given. The article concludes with a table, on "Two Hundred and Three Patients who Remained in the Adirondack Cottage Sanitarium, an Average Time of Nine Months." In the August number of the *Dominion Medical Monthly*, three important points are mentioned in an editorial article on this subject: 1, the employment of a rubber "sanitary" pocket, so constructed as to fit into the inside pocket of the patient's coat, serving as a receptacle for handkerchiefs, used for the sputum of the afflicted; 2, the formation of a national society, for the propagation of information concerning tuberculosis and the necessary means to employ to stay its ravages—with provincial and county branches, on the lines of that promulgated by Sir William Broadbent in England, and presided over by H.R.H. the Prince of Wales; and 3, trephining in tubercular meningitis, incising the dura mater, admitting air to the subdural space—and, if need be, the employment of medicated injections therein. Just to hand is the July report of the Provincial Board of Health of Ontario. This shows a slight increase in death-rate over the average of the last three or four years. The total number of deaths reported is 1643 and the death-rate is 9.3 per 1000. For June the number was 1521, the death-rate, 9 per 1000. The total number of deaths from contagious diseases was 230, 6 more than in July, 1898, and 17 more than in June of this year. Scarlatina registers 7, diphtheria 20, measles 4, whooping-cough 6, typhoid 15, while consumption shows a marked increase; 178 deaths were registered from the "white plague" alone, which is the rate of 1 per 1000. In July, 1898, deaths from consumption were 143, 0.9 per 1000.

NOTES.

Dr. N. E. McKay, Halifax, N. S., has received an appointment on the faculty of the Halifax Medical College. He will be lecturer on surgery and professor of clinical and operative surgery....Surgeon-Lieut.-Col. J. L. H. Neilson has been appointed director-general of the Canadian militia army medical services....Dr. Oronhyatekha, Supreme Chief Ranger, I. O. F., Toronto, and Dr. Thomas Millman, medical officer of the same institution, have been elected to the positions of president of the National Fraternal Congress and vice-chairman of the medical section thereof, respectively....Dr. P. H. Bryce, Secretary of the Provincial Board of Health for Ontario has just returned from a trip to Muskoka. He states the hotels up there are now in fine sanitary shape and that not a single case of typhoid fever has been reported there this season, which is altogether unusual.

Book Notices.

TREATMENT OF PELVIC INFLAMMATION THROUGH THE VAGINA. By WM. R. PRYOR, M.D. Professor of Gynecology, New York Polyclinic; Consulting Surgeon, City Charity Hospital; Visiting Surgeon St. Elizabeth Hospital, New York City. With 110 illustrations. Price, $2.00, net. Philadelphia, W. B. Saunders. 1899.

As the title indicates, the author has not attempted to cover even a small part of the gynecologic field, but that which is covered is done thoroughly. The inflammatory diseases of the pelvis are the cause of the major portion of the suffering of women, and the importance of right treatment can not be too much emphasized. The spirit predominant throughout the work, as the author acknowledges, is that of an aggressive interference, yet the radicalism does not go beyond what is dictated by sound reasoning. The ultraconservative gynecologist even will find much to aid him in his methods of treatment, for while the author is emphatic in urging radical treatment when indicated, the milder methods are fully given. The book is distinctly original, and is intended to reflect the author's views, and his only. "The views and methods of others can readily be procured from the medical press," as the author informs us. The book is well illustrated and will be found of great practical value, not only to the operator, but also to those who confine themselves to the more simple or palliative measures.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. Volume XVI. Infectious Diseases. New York: William Wood & Co. 1899.

This slightly belated volume of this valuable series contains a number of important articles by authors whose names alone are a guarantee of the worth of their contributions. Chief among these may be noticed: "Lobar Pneumonia," by Dr. Andrew H. Smith; "Cerebrospinal Meningitis," by Dr. Netter of Paris; "Inflammation," by Prof. Ziegler of Freiburg; "Relapsing Fever," by Prof. Popoff of St. Petersburg, and the two on "Typhoid Fever," by Drs. Thacher and Brannan of New York. Tropical medicine is represented in the articles on "Yaws," by Dr. Nicholls of Dominica, W. I., and that on "Dysentery" is by Dr. Sodré of Rio Janeiro. All the articles are monographic and give the latest accepted views on their respective subjects, of course, in some cases tinged by the author's own predilections on certain disputed points. This, however, does not detract from their general value, and the volume is one that will rank well in the series.

LES PTOSES VISCERALES (ESTOMAC-INTESTIN-REIN-FOIE RATE). DIAGNOSTIC ET NOSOGRAPHIE (ENTEROPTOSE-HEPATISME). Par FRANTZ GLENARD, (The Visceral Ptoses, Etc.). Avec 224 figures et 30 tableaux synoptiques. Paris: F. Alcan. 1899.

The theme of this bulky volume is the derangements characterized by displacement of the abdominal viscera, which the author remotely attributes to hepatic derangement and creates a new diathesis, that of "hepatisme," a condition in his opin-

ion responsible for a large number of nutritional disorders. The arguments in favor of the author's views are given at great length, and are based, as he claims, on the study of over ten thousand cases, all of the same pathologic family.

THE MECHANICS OF SURGERY, comprising Detailed Descriptions, Illustrations and Lists of the Instruments, Appliances and Furniture necessary in Modern Surgical Art. By Charles Truax. Chicago: 1899. Price $4.50.

Mr. Truax has attempted something in this book that is unique, to say the least, and he has done his work well. The task of giving us such a work as is attempted in this volume is a very hard one, for the reason that the author does not pretend to be a surgeon, and yet has quite often to give advice which is not supposed to come from any one but a surgeon. The position which he occupies, and from which he writes, is that of a manufacturer of instruments, and he lays no claim to anything further. He has carefully avoided, therefore, stepping over the boundary, although at times he seems to have gotten very close to the edge.

Each branch is taken up and instruments are grouped under the particular department to which each belongs. The opening chapter is on the history of instruments, which is followed by one on the construction of surgical instruments, and in this the subject is treated in a general manner. Then follows a chapter of the care of instruments, in which he is given advice that is serviceable as far as it goes, but it is disappointing in that so little is said about the minor details in the care of instruments. However, this omission is met in different places in the book where hints are given for the care of special instruments.

Not only are hints given as to the care but also how to select the right instrument for the purpose in hand, and in this part of the work comes its great value. Taking up the subject of thermometers, for instance, the physician will find in paragraphs devoted to this instrument some very practical information that will be found useful. He calls attention to the advantage of knowing how long it takes the thermometer to register, so that time may not be unnecessarily wasted in securing the proper temperature. Different instruments take different lengths of time. An instrument that will register the maximum degree of heat in one minute is preferable to one requiring five minutes. The author calls attention, however, to the fact that in getting these thermometers that register in a minute it requires that the bulb be very thin and consequently more breakable. The time required for a thermometer to register the maximum temperature must depend on the shape of the bulb, the quantity of mercury and the thickness of the glass forming its walls. It is, he says, very important that physicians should know the time requisite for each thermometer to register, and to obtain this he makes a suggestion. This is that on receiving a thermometer, it be tested by immersion in water at about the normal body temperature—say for five minutes. After shaking down the mercury, it should be tested for four minutes. If the temperature is found the same after this test, it should be again tested for three minutes. If this reaches the same result, it may be tested for two minutes, and so on until a test is made in which the maximum temperature is not reached. The shortest time, then, in which the proper temperature is secured should be selected for each registration, and if accurately timed in all cases the physician will be certain to secure perfect results.

Such hints as he gives in reference to thermometers may be found in reference to other instruments in various chapters of the book; and those who want to know how to select good instruments and how to take care of them when they have them, will find many helpful hints.

The chapter on "Prosthetic Surgery," which comes at the end of the book, is one of the most valuable, and is a subject that has been well handled by the author, who speaks from experience.

We can not help but congratulate the author on the success he has made, and we are sure that those who procure the volume will feel that they are well repaid in the amount of information contained therein.

Deaths and Obituaries.

WALTER T. ADAIR, M.D., for fifteen years superintendent of the Cherokee Orphan Asylum and the Cherokee High School, died at his home, near the asylum, August 15, aged 65 years. He was staff surgeon of Stand Watie's command and chief surgeon of the First Indian Division, on the staff of General Douglas H. Cooper, during the Civil War.

WILLIAM H. CAEMMERER, M.D., Univ. of Jena, Germany, 1847, died at his home in Brooklyn, N. Y., aged 78 years. He was born near Madras, India, and soon after his graduation came to this country. During the Civil War and for some time previously he was an examining physician at Castle Garden, N.Y. In 1870 he removed to Brooklyn, N. Y., where he established himself in a large family practice.

WILLIAM H. DALLAM, M.D., Univ. of Md., 1845, died at his home, near Creswell, Md., August 31, aged 77 years. He was for many years connected with the management of the Chesapeake Furnace Association.

JAMES FITZGERALD FEELY, M.D., N. Y. Univ., 1865, visiting surgeon of St. Catharine's Hospital, Brooklyn, N. Y., died at his home in that city, August 30. He was born in London, Eng., in 1841, but came to this country with his parents when a child and completed his scholastic course at the Brooklyn Polytechnic Institute. He was a member of the AMERICAN MEDICAL ASSOCIATION, the N. Y. State Medical Association and other scientific bodies.

DR. ROBERT W. HASLETT, for forty-five years a practitioner of medicine in Wheeling, W. Va., died at his home September 2, aged 71 years. He had been president of the State Medical Society, of the Ohio County Medical Association, and had held other responsible positions. The Ohio County Medical Association, at a special meeting called for the purpose, passed resolutions of condolence, and these, with other proceedings, show the high esteem in which he was held by the profession and the citizens.

JOHN M. GRAY, M.D., of Noblesville, Ind., died at the home of his daughter, in that city, August 29. Through the Civil War he was surgeon of the Thirty-ninth Indiana. During his late years he had been in failing health, and was almost blind.

J. B. HARRISON, M.D., died at his home, in Union City, Tenn., August 27, aged 70 years. He was an old landmark of the city, and did a large charity practice for years.

JOHN J. LINSON, M.D., died at his home, in Tarrytown, N. Y., August 26, aged 73 years. He was an assistant surgeon in the Sixth N. Y. Heavy Artillery during the Civil War, later being surgeon of the provost-marshal's office at Tarrytown.

HAMILTON MAILLY, M.D., died at his home in Bridgeton, N.J., August 30, aged 32 years. Dr. Mailly was a victim of tuberculosis, and spent six months in Colorado, returning about one year ago apparently benefited in health. He was born in Delaware in 1867, graduated from the University of Pennsylvania in 1891, and has since been practicing his profession in Bridgeton. He has for a number of years held the office of Secretary of the Cumberland County Medical Society, and was also a member of the Medical Staff of the Bridgeton Hospital Association. Dr. Mailly was held in the highest esteem by the medical profession in general.

CORNELIUS HANFORD SCHAPPS, M.D., formerly of Brooklyn, N. Y., died in New York City, September 1, aged 82 years. He became a licentiate of the N. Y. State Medical Society in 1840.

George S. Pohls, M.D., died in Philadelphia, August 30, aged 49 years.... William Rubey, M.D., Macon, Mo., August 29.... George H. Trumbo, M. D., at Linden, Va., August 26, aged 59 years.

Miscellany.

Pharmacy in Germany.—The drug store in Germany must have, besides the store and separate prescription room, a room for dry storage, a cellar, a laboratory and a compounding room, and he accepted as suitable by the Regierungspresident. It is inspected once in three years by a commission consisting of a physician, a druggist, government official and a policeman. Poisons have to be kept locked up in a special compartment with special scales.

Death After Zinc Chlorid Injection Into Uterus.—M. Schmid recommends applying zinc chlorid on a cotton wad, instead of using the Braun syringe, as the solution may penetrate into the tube and cause fatal perimetritis, as has recently occurred in his experience. Three injections of 1 c.c. of a 50 per cent. solution were uneventful, but the fourth caused death within eight hours, although the fluid had not reached the fimbriated extremity.—*Monats. f. Geb. u. Gyn.*, June.

Peace Propositions.—The three propositions advanced at the Peace Conference, prohibiting the throwing of explosives from balloons, the use of projectiles destined solely to disseminate asphyxiating or toxic gases and of projectiles that spread after entering the body, were all signed by Russia, France, Sweden and Norway among the more important of the twenty-six powers represented. All were rejected by Austria, China, Germany, Great Britain, Italy, Japan, Luxemburg, Servia and Switzerland. The United States also refused to sign the gas and bullet ordinances, and Portugal the latter. The same powers also all refused to sign the ordinance applying the principles of the Geneva Convention to maritime warfare, with the addition of Turkey.

Can Block off Streets.—In the case of George V. Anderson against the mayor and council of the city of Wilmington, the superior court of Delaware holds that the city had a right to block off a street for the comfort and well-being of sick residents thereon, in its discretion, and to use for that purpose such instrumentalities as it deemed proper. Inasmuch, however, as the street was a public highway of the city, to the proper use of which all the citizens were entitled, the court adds that it was the duty of the city, in placing such obstruction, as for example a wire, there, to so place and mark the same as to properly guard the public safety, and to give such notice of the obstruction as would reasonably notify all persons having occasion to use the street that the danger was there.

Infiltration Anesthesia.—This method of inducing anesthesia, according to the Berlin correspondent of the *Medical Press and Circular*, seems much more cultivated in Germany than in other countries, and a recent article by H. Braun in *Volkmann's Archiv.* brings it still further to the front. The best medium for producing the anesthesia in the eucain B solution (eucain B 0.1, sod. chlorid 0.8, aq. dist. 100.0). This solution admits of sterilization, while cocain does not. Before the operation Braun always gives a morphia injection, but not in the region to be operated on. The method of injection is that adopted by Schleich himself. He has performed both minor and major operations under this form of infiltration anesthesia—tracheotomies, empyo-thoracentesis, abdominal sections (twenty cases). The solution is said to be very suitable for hydrocele operations. After removal of the fluid, the sac is filled tensely with the fluid, and in a quarter of an hour the tissue to be removed is infiltrated with the solution. The regionary anesthesia recommended by Oberst is most suitable for phlegmons and diffuse inflammations.

Entitled to Sick Benefits.—The word "sickness," as used in the by-laws of beneficial societies, the supreme court of Rhode Island states, in the case of Robillard against the Societe St. Jean Baptiste, is construed to include insanity, so as to entitle a member becoming insane to sick benefits, where the by-laws provide for sickness and do not especially exclude insanity. Nor is it a defense, where the allegation is that the member was sick and unable to work, on account of nervous trouble, the supreme court of Michigan holds, in the case of Wuerthner against Workingmen's Benevolent Society, that his condition might be due to immoral practices, where there is no specific exclusion on that account under the by-laws. It says that a claim that such is the case has force, by reason of the repulsive nature of the vice; but, it adds, had the sickness resulted from overexertion in sport, or overeating, or the liquor habit, the same defense might be made, if this one was permissible.

Nursling Consultations.—Seven years ago Prof. P. Budin established a weekly consultation for the infants, born in his service at the Charité, who are brought back by the mothers every Friday morning for inspection and advice after they leave the hospital. It is impossible to overestimate the benefits of these conferences, with the weight and progress of the infants recorded from week to week, advice to the mothers and gratuitous distribution of sterilized milk in bottles only containing enough for one meal for the baby. There has not been a single case of rhachitis, milk dyspepsia, "big belly" nor scorbutus among the 435 thus supervised for one month to two years, and only one death from bowel trouble, and in this instance his advice was disregarded. Similar consultations have since been established elsewhere in France. Some, like the "Drop of Milk" at Fecamp, where the mortality from enteritis has fallen to 1.28 per cent., supply all the sterilized milk needed by the infants, free or not according to circumstances.

Medical Department, University of California.—Many changes have been made in this institution since the closing of the last term. The anatomic and pathologic departments have been entirely reorganized and will be placed under salaried heads, the men in these departments have nothing to do outside of the college work of their own departments. Fifty microscopes have been given to the department by a regent of the university, the same regent also having agreed to be responsible for the full equipment of a pathologic laboratory on the best and most complete scale. It is expected that all the laboratories will be fully equipped by the end of another year. Very extensive facilities are to be provided for original research and for animal investigation, and as there is considerable research work already in progress, this part of the college work may soon be expected to be heard from. The library of the department is being catalogued as rapidly as possible, considering the fact that no catalogue of any kind has previously existed. There are about 3000 bound volumes in the library, including complete sets of many journals, among them being *Virchow's Archives*, Schmidt's Jarbuch, the *Lancet*, the *British Medical Journal*, and others. There are also about 2000 German monographs and as many English and American pamphlets. When fully catalogued and indexed the library will be very valuable.

Fifty Dollars a Day Not too High.—In the case of the City of Walla Walla vs. Ferdon, the supreme court of Washington holds that an ordinance imposing a license fee of $50 per day for the sale by public outcry of drugs, medicines, nostrums or any other substance for the cure of, or pretended cure of, any disease or ailment, is not invalid, as being unreasonable, in demanding an extortionate sum for the license. The court recognizes that a municipal corporation may not arbitrarily declare a lawful trade or business a nuisance. Yet it says that the manner of conducting it may be regulated, and that it may be licensed when so regulated. Nay more, it declares that it can not be said that the sale of drugs and nostrums by public outcry, and accompanied, say by a concert, comes within the class of useful trades or employments.

It thinks it rather falls within another class, where, under the authority to regulate and license, a substantial revenue may be incidental to the license. Nor does it consider that it made any difference that the defendant held a license as auctioneer and also for a show or exhibition, although the contention was that therefore as a showman he could attract people, and as auctioneer he could vend drugs and nostrums which were claimed to cure ailments. Neither does it accede to the contention that because there was no license required for the sale of drugs in the usual manner by drug stores there was discrimination in the terms of the ordinance in question. It insists that there is a material difference between the ordinary dispensation of drugs through the drug store, and noisy sales by public outcry. It further asserts that it can not be said that the public welfare of a city requires the sales of nostrums in the latter manner.

New York Medical Items.—The monthly report of the New York State Board of Health of the mortality in the State in July, just issued, places the total number of deaths at 11,291. Of these 7324 were in the maritime district, a showing that compares favorably with the mortality in past summer seasons. The total number of deaths in New York City was 6808, of which 3571 were in the Borough of Manhattan, 2381 in Brooklyn, 397 in Bronx, 285 in Queens, and 164 in Richmond. Of the deaths in the city, 101 were from old age, and 836 from accident or violence. In the maritime district in general the mortality represented an annual death-rate of 22.5 per 1000 of the estimated population; in the city of New York, a death-rate of 22.5; in the Borough of Manhattan, a death-rate of 21; in the Borough of the Bronx—increased by the number of the large institutions there—28.5; in the Borough of Brooklyn, 22.5; in the Borough of Queens, 25.8, and in the Borough of Richmond, 28.7. The percentage of deaths of children under 5 years of age to the total number of deaths was 51.3 in the maritime district in general; 52.2 in New York City as a whole; 51.6 in the Borough of Manhattan; 50 in the Bronx; 53.1 in Brooklyn; 55.2 in Queens, and 49.4 in Richmond. Some rather curious contrasts are presented by the mortality records of some of the towns in the maritime district outside of New York City. Thus, in Sag Harbor, at the eastern extremity of Long Island, while the total number of deaths represents an annual death rate of 32, or one-third more than New York City and the district in general, the percentage of deaths under 5 years is only 12.5. On the other hand, in White Plains, Westchester County, a rural community, the percentage of deaths under 5 years is 62.5, or more than 10 per cent. greater than in the city of New York. The proportion of deaths from zymotic diseases per thousand deaths from all causes was 265.3 in the district in general; 267.6 in the City of New York as a whole; 228.2 in the Borough of Manhattan; 245 in the Bronx; 312.6 in Brooklyn; 302.5 in Queens, and 250 in Richmond. In the towns outside New York City the largest proportion per 1000 of total deaths, 555.5, was in North Hempstead, on Long Island, and the smallest, 103.8, in Brookhaven, also on Long Island.

Good Will.—Lord Eldon said that good will was simply "the possibility that the old customers will resort to the old place." In that sense, in which he used the term "good will of the premises," the supreme court of Tennessee says there may be an advantage of pecuniary value in occupying premises which have been occupied by skilled professional men, and to which the public has resorted, or has been attracted by advertisements, or prior visits, or general reputation of prior occupants. It reasons that many persons, attracted to the place by the reputation of former occupants, might remain, no matter who might be in occupancy, while others might leave so soon as it was ascertained that they were not occupied by the persons in whom they had professional and personal confidence. But whatever else may be said about it, or done to such good will as arises out of location, the court holds, in Slack vs. Suddoth, that there can be no forced sale or transfer in invitum of such good will, so far as it is based upon business connections or professional reputation and standing, such as arises from the skill of physicians, dentists, etc. More particularly, the court holds that where two dentists had been talking of dissolving partnership, and one of them went out of the firm, rented a room adjoining the old offices, and offered his former partner $500 to let him have the lease and use of those offices, the court holds that this offer was no criterion of the value of the use of those rooms, and would be no justification for an award to him of $500 or any other sum for the good will so-called acquired by the remaining partner. In other words, it holds that the partner that left was entitled to nothing on the account of good will, under the above-stated principles.

Not Responsible for Amputated Parts.—A case apparently without a parallel, is that of Doxtator vs. Chicago and West Michigan Railway Company. The plaintiff sued to recover damages on account of having been deprived of the right to give the remains of her deceased husband a Christian burial, alleging that she had been deprived of that right by the wrongful act of the defendant. The theory of the plaintiff was that, when the railway company lifted her husband from the ground, after he had been run over while in its employ, it took on its shoulders a duty, and that duty was to care for him while he should live, and at his death deliver his remains, and the whole of them, over to his wife for burial; that the company did not do this, but, instead, negligently allowed the cremation of the dissevered lower limbs, and was, therefore, liable to the widow in damages. She obtained a judgment in her favor. But the supreme court of Michigan reverses this, holding that the defendant was entitled to a directed verdict. At the outset, it states that at the common law there was said to be no property in a dead body, and that in one sense this may still be deemed an accurate technical statement; but that it has been held in a number of well-considered American cases that the one whose duty it is to care for the body of the deceased is entitled to possession of the body, as it is when death comes, and that it is an actionable wrong for another to interfere with that right by withholding the body or mutilating it in any way. This right was conceded here. Taking up the question of the duty of the company, and how far it assumed control over the injured man, the court holds that, by the yard foreman calling another to hold his head, and notifying the surgeon of the road and calling the police ambulance, neither the foreman nor the railway company could be said to have become bailee, or to have assumed such a control over the injured man as to preclude the relatives from assuming charge of the ministrations to him. At his own request he was not taken home, though the policeman who came with the ambulance took him to a different hospital from the one he requested. Now, if its surgeon had not appeared, the court thinks that the company would not have been liable for any further neglect of, or injury to, the unfortunate man. Nor does it consider that, finding the patient in an appropriate hospital, with another surgeon in attendance, by assuming charge of the case, the company's surgeon took upon himself, as the agent of the railway company, the duty of seeing to it that, when death ensued, the body should be delivered to the widow. It holds that the duty he assumed consisted merely of performing such operations as the nature of the case required, leaving it to the attendants at the hospital to make such disposition of the parts amputated as custom warranted, and that neither in purpose nor in fact did he assume to take charge of the dismembered parts. The assumption of the charge of the case, it holds, was simply assuming charge of the operation. The surgeon had no knowledge of any direction as to the disposition of the amputated parts, and the court maintains, was not in fault in not assuming and guarding against an unwarranted disposition of them.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., to and including August 31, 1899:

Daniel M. Appel, major and surgeon U. S. A., from the general hospital, Savannah, Ga., to Fort Bayard, N. M., as commanding officer of the general hospital for pulmonary tuberculosis to be there established.

Edward J. Barrett, appointed lieutenant and asst.-surgeon, Vols., August 17, 1899, and assigned to the 41st Inf. Vols., at Camp Meade, Pa.

William J. Boyd, acting asst. surgeon, from Pavilion, N. Y., to duty at Fort Leavenworth, Kan.; appointed member of a board at that post to examine persons designated for appointment as second lieutenants in the army.

Walter Cox, lieutenant and asst.-surgeon, U. S. A., sick leave extended.

Thomas Earle Evins, acting asst.-surgeon, from Fort Crook, Neb., to Fort Riley, Kan., to accompany troop G, 6th Cav., to San Francisco, Cal.

Rafael Echeverria, major and surgeon, Vols., leave of absence granted.

Charles M. Galbraith, appointed lieutenant and asst.-surgeon, Vols., August 17, 1899, and assigned to the 47th Inf. Vols., at Camp Meade, Pa.

Henry Lippincott, lieutenant-colonel, deputy surgeon-general, U. S. A., to represent the medical department of the army at the eighth annual meeting of the Military Surgeons of the U. S., at Kansas City, Mo., Sept. 27-29, 1899.

James E. Pilcher, captain and asst.-surgeon, U. S. A., to report for examination to the president of an army retiring board in New York City.

Junius L. Powell, major and surgeon, U. S. A., relieved from the operation of former orders requiring him to represent the medical department at the meeting of the U. S. Military Surgeons at Kansas City, Mo., Sept. 27-29, 1899.

Charles Richard, major and surgeon, U. S. A., member of a board at Fort Leavenworth, Kan., to examine persons designated for appointment as second lieutenants in the army.

Robert P. Robbins, appointed captain and asst.-surgeon, Vols., Aug. 17, 1899, assigned to the 47th Inf. Vols.; he will join this regiment on its arrival in Manila, P. I.

Joseph L. Sanford, appointed lieutenant and asst.-surgeon, Vols., August 15, 1899, and assigned to the 29th Inf. Vols., at Fort McPherson, Ga.

Dwight B. Taylor, acting asst.-surgeon, to accompany recruits from Columbus Barracks, Ohio, to San Francisco, Cal., and thereafter return to his station.

Walter D. Webb, appointed captain and asst.-surgeon Vols., August 17, 1899, and assigned to the 43d Inf. Vols., at Fort Ethan Allen, Vt.

James S. Wilson, lieutenant and asst.-surgeon, U. S. A., orders relieving him from duty on the hospital ship *Missouri* on his arrival at Manila, P. I., amended so as to relieve him at once; he is directed to proceed to Manila on that ship.

Nelson W. Wilson, acting asst.-surgeon, to post duty at Fort Porter and as examiner of recruits at Buffalo, N. Y.

GENERAL ORDERS, NO. 159.

Headquarters of the Army: Adjutant General's Office.

WASHINGTON, August 29, 1899.

By direction of the Secretary of War, the Surgeon-General of the Army is authorized to establish a general hospital at Fort Bayard, N. M., as a sanatorium for the treatment of officers and enlisted men of the army suffering from pulmonary tuberculosis and hereafter transfers of enlisted men suffering from this disease may be made to this hospital on the recommendation of medical officers of the army—to be forwarded through military channels.

Such buildings pertaining to the post of Fort Bayard as may be necessary to carry this order into effect will be designated by the Surgeon-General of the Army. Fort Bayard will be put in good state of repair by the Quartermaster's Department.

The Surgeon-General is also authorized to provide for the care and treatment of discharged soldiers entitled to the benefits of the U. S. Soldiers' Home, Washington, D. C., who may be sent to the sanatorium by the Board of Commissioners of the Home. The expense of the maintenance of such discharged soldiers to be paid from the Soldiers' Home funds. By command of Major General Miles.

H. C. CORBIN, Adjutant General.

BOARD CONVENED.

The following order for a board of medical officers to be convened at Manila, P. I., for the examination of candidates for admission into the medical department of the army was issued from the War Department, August 29, 1899:

By direction of the Secretary of War, a board of medical officers, to consist of—

Major William R. Hall, surgeon, U. S. Army;

Major William H. Artlund, surgeon, U. S. Army;

Captain William L. Kneedler, asst.-surgeon, U. S. Army;

First Lieutenant Douglas L. Duval, asst.-surgeon, U. S. Army;

First Lieutentant Clarence J. Manley, asst.-surgeon, U. S. Army,

is appointed to meet on board the hospital ship *Missouri*, as soon as practicable after the arrival of that ship at Manila, Philippine Islands, for the examination of candidates for admission into the medical department of the army. The board will be governed in its proceedings by such instructions as may be communicated to it by the surgeon-general of the army.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending Sept. 2, 1899:

P. A. Surgeon E. R. Stitt, detached from the bureau of medicine and surgery, September 25, and ordered to the *Hartford*.

Asst.-Surgeon W. M. Garton, detached from the *Annapolis*, when placed out of commission, and ordered to the naval academy.

Asst.-Surgeon W. M. Garton, order of August 28 modified, when detached from the *Annapolis*, ordered to the Norfolk navy yard for duty on the *Franklin*, instead of to the naval academy.

Pharmacist I. N. Hurd, detached from treatment at the naval hospital, Mare Island, Cal., and granted sick leave for three months.

P. A. Surgeon J. C. Rosenbleuth, detached from the *Nashville* and ordered to the naval hospital, Chelsea, Mass., for treatment.

P. A. Surgeon M. S. Guest, detached from the Boston navy yard and ordered to the *Wabash*.

Asst.-Surgeon H. A. Dunn, detached from the Washington navy yard, September 2, and ordered to the Port Royal naval station.

Asst.-Surgeon A. Stuart, detached from the Port Royal naval station, and ordered to the *Yankton*.

Asst.-Surgeon D. B. Kerr, detached from the *Yankton* and ordered to the *Marietta*, upon reporting of relief.

Asst.-Surgeon M. K. Johnson, detached from the *Marietta* and ordered to the *Nashville*.

Pharmacist R. Waggener, ordered to the Army and Navy General Hospital, Hot Springs, Ark., for treatment.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine-Hospital Service, for the seven days ended August 24, 1899.

Surgeon D. A. Carmichael, granted leave of absence for 30 days.

Surgeon Eugene Wasdin, to proceed to Marshall, Va., on special temporary duty; detailed as delegate to the International Medical Congress to meet at Brussels, Belgium, Sept. 4, 1899.

Surgeon W. J. Pettus, granted leave of absence for one day.

P. A. Surgeon W. G. Stimpson, granted leave of absence for 30 days from August 19, 1899.

P. A. Surgeon J. H. Oakley, to proceed to Paducah, Ky., on special temporary duty.

P. A. Surgeon H. W. Wickes, granted leave of absence for 10 days.

Asst.-Surgeon L. D. Fricks, detailed as inspector of unserviceable property at Norfolk, Va.

Acting Asst.-Surgeon H. S. Caminero, detailed as quarantine officer for the port of Guantanamo, Cuba.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Sept. 1, 1899:

SMALLPOX—UNITED STATES.

Florida: Jacksonville, August 26, 1 case.
Louisiana: New Orleans, August 26, 1 case.
Massachusetts: Boston, August 26, 1 death; Fall River, August 26, 1 case.
Michigan: Battle Creek, August 26, reported present.
Ohio: Cleveland, August 26, 2 cases.
Pennsylvania: Philadelphia, August 26, 1 case.
Washington: Spokane, August 19, 1 case.

SMALLPOX—FOREIGN.

Argentine Republic: Buenos Ayes, June 1 to 30, 1 death.
Austria: Budapest, August 6 to 10, 1 case.
Belgium: Antwerp, August 5, 5 cases, 1 death.
Brazil: Rio de Janeiro, July 14 to 27, 11 deaths.
Egypt: Cairo, July 23 to August 2, 7 deaths.
England: Hull, August 19, 3 deaths; London, August 5, 1 death.
Greece: Athens, August 5 to 14, 5 cases, 2 deaths.
India: Bombay, July 25 to August 1, 22 deaths; Madras, August 15 to 21, 1 death.
Mexico: Chihuahua, August 20, 1 death; Mexico, August 13 to 22, 6 cases, 3 deaths; Neuvo Laredo, August 12 to 18, 1 death.
Russia: Moscow, July 29 to August 14, 6 cases, 1 death; Odessa, August 5, 1 case, 2 deaths; St. Petersburg, July 29 to August 12, 15 cases, 2 deaths.
Turkey: Erzerum, August 5, 2 cases.

YELLOW FEVER.

Argentine Republic: Buenos Ayres, June 1 to 30, 3 cases, 3 deaths.
Brazil: Rio de Janeiro, July 14 to 27, 6 deaths.
Colombia: Barranquilla, August 6 to 13, 2 deaths.
Cuba: Havana, August 14 to 27, 7 deaths; Matanzas, August 21, 1 case; Santiago, July 30 to August 12 to 19, 5 cases, 4 deaths.
Mexico: Tuxpam, August 14, 5 deaths; Vera Cruz, August 17 to 24, 22 deaths.

CHOLERA.

India: Bombay, July 25 to August 1, 7 deaths; Calcutta, July 15 to August 3, 73 deaths.
Japan: Yokohama, July 29, 1 death.

PLAGUE.

Egypt: Alexandria, July 30, 4 cases, 3 deaths.
India: Bombay, July 25 to August 1, 132 deaths; Calcutta, July 15, to August 3, 7 deaths.
Straits Settlements: Penang, July 7 to 14, 71 deaths; Singapore, July 1 to 15, 7 cases, 4 deaths.

CHANGE OF ADDRESS.

Akins, W. T., from 1122 Southport Ave to 1042 Addison St., Chicago.
Bond, L. L., from West Side to Denison, Iowa.
Best, S. R., from Brandon to Centerburg, Ohio.
Bennett, A. L., from 1463 Pearl St. to Steel Blk, Denver, Colo.
Bellamy, R., from 210 W. 57th St., New York City to Newport, R. I.
Childers, R. A., from Gainesville to Abilene, Texas.
Felt, R. A., from Galesburg to Knoxville, Ill.
Gilmer, J. P., from Fonda Bldg. to 722 Chestnut St., Louisville, Ky.
Gilmore, G. H., from Murray, Neb. to Stanberry, Mo.
Kelly, William, from Nashville, Tenn. to Care C. I. M. Hankow, Hunan St., Changteh, China.
McClintock, J. T., from Sioux City to Box 1804, Iowa City, Iowa.
Neilson, T. R., from Philadelphia, Pa. to Box 938, Cape May, N. J.
Stolts, A. F., from 1737 Vine St., Philadelphia to Soldier, Pa.
Underwood, A. M., from Grove Beach, Conn. to Lancaster, Pa.
Wilson, J. B., from Canon City, Colo. to Laramie, Wyo.
Whittaker, J. T., from Lakewood, N. Y. to 32 Garfield Pl., Cincinnati, Ohio.
Woodward, R. M., from Reedy Island Quar., Port Penn, Del. to U. S Marine-Hospt. Bureau, Washington, D. C.